

SELFISH GIRLS: PERCEIVED UNDERSTANDING OF GENDER, RACE, AND
CLASS IN DISCUSSIONS ABOUT TECHNOLOGY WITH PRE-ADOLESCENT,
LOW-INCOME, AFRICAN AMERICAN GIRLS

By

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Abstract of Dissertation Presented to the Graduate School
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This study explores the attitudes concerning race, gender, and class of eight pre-adolescent African American girls from the Queensbridge Public Houses. Over the course of two years, eight girls were challenged to think about the current standing of Black women in technical fields. Through discussions about technology, the girls' perceptions about race, gender, and class were thoroughly examined. Using the current frameworks of critical, Black feminist, and self-efficacy theories, connections were made between the views of these eight girls and the historical oppression of Black women at work.

Critical theory is used to show the power structures that have placed the poor, minorities, and women in a position of subjugation throughout history. Black feminist theory claims that oppressive labels have been attached to Black women in American society, and the domination leads to their acceptance of the viewpoint reflective of

American society. Self-efficacy theory implies that confidence in technology is developed based on internal and external factors, and is reflective of the experiences that person has in that field.

Based on the foundations of the theories above, this study makes the claim that these eight pre-adolescent low-income African American girls do not understand the connection between career aspirations and class, race, and gender oppression. Their words and behaviors suggest a belief in a merit-based system of success where a person achieves success based on hard work. The theories discussed above claim that these beliefs have been used historically to oppress Blacks, women, and the poor at work, and especially in technical fields.

CHAPTER 1 INTRODUCTION

In 1998, Black women earned only 1.9% and 5.0% of all bachelor's degrees in engineering and in computer science, respectively (Hill, 2001). Yet, we live in an information age, in which success demands an understanding and integration of technology in one's daily life. In the United States, disparities in access to and success with technology correlate to more general inequalities in the society. Sexism, racism, and socioeconomic factors affect the exposure of young Black girls from low-income neighborhoods. It is important to understand how young Black girls perceive the impact of technology in their lives, and how their discussions about technology might give us insight into their understanding of prejudice and discrimination.

In this dissertation, I will introduce the reader to the lives of nine- and ten-year-old Black girls from the Queensbridge Houses in Queens, New York. Through the voices of these girls, my hope is that the reader will gain a greater understanding of their ideas and beliefs concerning technology.

Taking The First Step

For me, writing a dissertation is similar to climbing Mount Everest. You start out with this huge project in front of you and the hardest part is taking that first step. Why is that first step so hard? Well, partly because there is no end in sight. With the mountain, it is so high that the clouds prevent you from seeing the top. The same is true for a

dissertation. You know that in order to finish you must first begin, but because there is no end in sight you sometimes find yourself paralyzed. However, just as with climbing Mount Everest, the key to completion is taking a few steps every day. You may not know how many more steps lie ahead of you, but you do know, from the experiences of those before you, that if you persevere, the end will come. Thus begins my story, and those of the nine- and ten-year-old girls from the Jacob A. Riis Settlement House.

It is June 14, 2001, and I am on a plane bound for New York from Gainesville, Florida, I am moving there. As the plane lands I feel the butterflies start to flutter in my stomach. What was I thinking? I'm not ready for New York City. What made me think I was? However, at this point, it is too late to turn back. I have accepted a position as the Community Technology Center (CTC) Coordinator at Jacob A. Riis Neighborhood Settlement House, a small community center in the middle of the Queensbridge Houses. Queensbridge!! Now I am really getting nervous. Anybody who listens to rap music knows about Queensbridge:

I got you stuck off the realness
We be the infamous you heard of us
Official Queensbridge murderers
The Mobb comes equipped with warfare, beware
Of my crime family who got nuff shots to share
Wit' all of those who wanna profile and pose
Rock you in your face
Stab your brain wit' your nosebone (Mobb Deep, 1995)

I grew up in midtown Atlanta, my upbringing the epitome of a middle class life; what do I know about living in the projects?

I pull it together at the airport, gather my luggage, and proceed to the curb to wait for my ride. I grow calm as I wait; I know I can do this. My ride arrives. The agency's social worker and after-school coordinator, who picked me up, talk rapidly about all of

the things that had gone wrong that day at the center. I felt those butterflies flutter again. As we drove down the highway and into Queensbridge I stared out of the window knowing my life would never be the same.

I came to New York with what I thought was a clearly defined purpose. I was a researcher, an academic, a scholar. I intended to study the impact of community technology centers in urban low-income communities, write my dissertation, graduate, and move toward my future as a scholar. I was starting a new job at the Jacob Riis Neighborhood Settlement House in the Queensbridge Public Houses as their CTC Coordinator. My goal was to find a dissertation topic somewhere in there, but I had no idea what I was looking for, so I watched everything. Little did I know that working in this community would change my understanding of the daily lives of low-income residents. I would make an impact on them, but more importantly they would make an impact on me. My middle class values would be tested on a daily basis. Is there a correct way to behave? A correct way to raise your children? A correct way to see the world? A correct way to see computers? Two years later I am still amazed daily by what I learn about the people in Queensbridge and myself.

Search for a Topic

So there I was, all I had left to do was the dissertation, but I could not seem to get a handle on it. The first topic I explored pertained to the work I found myself doing at Jacob Riis. Because the organization's technology program was so new, there was no instructor to teach the adult computer classes, so I decided to teach them myself. During the course of a summer I came into contact with countless women who felt that learning to use a computer was their ticket to a "better life." I was interested to learn the origins

of this faith in technology came from and how they connected it to their hope of moving out of Queensbridge.

Of course there was plenty to explore in terms of this phenomenon, but nothing seemed to jump out at me. However, what did appeal to me was a group of young girls who were in the after-school program at Jacob Riis. I watched them come and go everyday and found myself fascinated by their behavior. They reminded me so much of myself, but at the same time were quite different. I wondered what they thought about technology. I heard the occasional comment about computers being for boys, and it worried me. Wasn't this the 21st century? Hadn't we moved past stereotypical views of gender (at least on the part of young girls)? Apparently we hadn't. What I was seeing was so similar to what Roberta Furger (1998) discovered in her discussions with pre-teen and teen girls around computers. Furger learned that the girls she spoke to "understood the unwritten yet incredibly powerful rule about computers: girls could use them for school, they could send email, chat, or play games now and then, but only guys could be into computers, only guys could be really good at them" (p. 3). However, I understood somewhat these pre-teen and teen feelings. The girls Furger interviewed were at the height of adolescence, during which it is expected that they will begin to demonstrate gender stereotypical behavior (Brown & Gilligan, 1992). What worried me was that the behavior I witnessed at Jacob Riis was manifesting itself in nine- and ten-year -old girls, who, according to the literature, were not yet supposed to doubt their technical abilities (Basow & Rubin, 1999).

After months of feeling a constant nag in the back of my head every time I was observing these girls, I realized this was the topic for which I had been searching. Over

the next two years I observed the Selfish Girls, as they called themselves, interacting with each other, technology, and me. I would discuss issues of gender, race, and class with them in order to understand where their views are right now and where they are headed in the future. Although the focus of this study is their views of the impact that technology has in their lives now and in the future, it is much more than that. In this study I explore the questions that discuss the current state of Black women in America and explore understandings of race, gender, and class by pre-adolescent Black girls living in the Queensbridge Public Houses. For this study I observed and interviewed nine- and ten-year-old Black girls participating in the OurKids after-school program at Jacob Riis Neighborhood Settlement House and living in the Queensbridge Public Houses.

Subjectivity Statement

Now that I had chosen a topic, I began to wonder how much my background and perspective had affected what I was drawn to and the way in which I intended to study it. Joyce Ladner (1971) discusses her struggle with this critical issue when she writes in her book *Tomorrow's Tomorrow*:

It is very difficult to determine whether this book had its beginnings when I was growing up in rural Mississippi and experiencing all the tensions, conflicts, joys, sorrows, warmth, compassion and cruelty that was associated with becoming a Black woman; or whether it originated with my graduate school career when I became engaged in research for a doctoral dissertation. (p. 1)

Joyce Ladner's introduction takes the reader into the world of low-income adolescent Black girls on the threshold of womanhood. She is forthcoming about her role in selecting the topic, and how her experiences as a Black woman influenced the way she approaches the topic. As a researcher working within the Black feminist framework, I am forced to ask myself: How does my background and life experience affect my

research? The role self has been critiqued several ways in social science research. The positivist tries to separate the self from the study in order to maintain objectivity and neutrality (Fine, Weis, Weseen, & Wong, 2000). For those working from an emancipatory standpoint, the self becomes crucial in the explanation and analysis of the situation.

The perspective I have decided to take concerning the role of the self is expected when working in the Black feminist tradition. In Patricia Hill Collins' (1998) book *Fighting Words: Black Women and the Search for Justice* she discusses her struggle with determining how much of herself to include in the book. She explains her decision thus:

My treatment of my own subject position constitutes a fourth element of fighting words. Despite the risks associated with this stance, I place myself in selected chapters and thus model the process of working from a situated subject position. I realize that locating myself in my narrative runs certain risks. People from historically disempowered groups are typically not seen as theorists, and our work is not deemed theoretical unless we produce theory in ways comparable to highly educated White men. (1998, p. xx)

With that tradition behind me, I have chosen to weave my own personal story into this dissertation, as I consider it a crucial part of seeking to understand the topic I have chosen to study and the way in which I will interpret and disseminate the data I collect.

Researcher Background

When I was growing up, both of my parents worked for IBM. Therefore, I consider my exposure to technology began when I was a very young girl. I remember one Christmas Eve my older brother and I were trying to go to sleep and heard what sounded like a keyboard in the living room. We thought we had gotten a new video game, but when we awoke the next morning we discovered that it was a new computer. I was only 10 at the time. This was not the first computer my parents bought, but it was

the first one intended for my brother and me. The next summer I attended a local community computer camp. Looking back at my camp picture, what I did not even notice then is obvious to me now. I was the only Black child in my group and probably one of few in the entire camp.

I say this to emphasize that computers and other technology have been a part of my life for as long as I can remember. I understand how powerful technology is and appreciate its uses. However, I left a graduate computer science program to pursue a degree in education. If someone like me, who had considerable exposure to technology from an early age, still is not interested in being a computer engineer then what does it take? Clearly, more than exposure is needed to develop an affinity with technology that goes beyond playing games or typing papers. Although my socio-economic background is quite different to that of the girls in my study, our experiences are quite similar in many ways.

Black Feminist Theory

I situate this story within Black feminist theory to show parallels in the perspective of Black women. In the interpretation of their voices, commonalities between my experience and that of my subjects will become apparent and the standpoint will be made stronger. Patricia Hill Collins (1998) explains the importance of this connection when she writes, “Without a collectivity or group, there can be no critical social theory that aims to struggle with the realities confronting that group. In other words, if African American women’s experiences are more different than similar, then Black feminist thought does not exist” (p. xvii). Therefore, the goal of this study is to find and analyze the similarities between my life and those of the girls.

It is important to understand that this is not simply a study about technology. Although the lens is technology, the words of these young girls point to other power paradigms that exist in American society. Over the past 50 years U.S. society has rapidly moved from an industrial one to a technological one (Harrington, 1962). The impact of this change on the poor, people of color, and women has been tremendous. Although I asked questions of young girls who will change and reshape their views as they grow older, their responses are pertinent to a wider segment of America.

Many people in U.S. society operate under the assumption that differences in opportunity based on race, class, and gender are normal and immutable. As Patricia Hill Collins (2000) states, “Within U.S. culture, racist and sexist ideologies permeate the social structure to such a degree that they become hegemonic, namely, seen as natural, normal, and inevitable” (p. 5). This phenomenon has even seeped into the research methodologies and how theoretical frameworks are assessed. Other research paradigms try to discount the impact these factors exert on how research is done, and how people are represented in research studies. In order for Black women to develop representations of themselves that depart from mainstream paradigms, they must conduct their own research and tell their own story.

For Black women as a collectivity, emancipation, liberation, or empowerment as a group rests on two interrelated goals. One is the goal of self-definition, or the power to name one’s own reality. Self-determination, or aiming for the power to decide one’s own destiny, is the second fundamental goal. (Collins, 1998, p. 45)

Once Black women have gained this power, others will begin to see this new epistemology as a valid critical social theory. However, Collins stresses that even

without this acceptance, Black feminist thought is currently a critical social theory, albeit one whose main focus is Black women.

As critical social theory, Black feminist thought encompasses bodies of knowledge and sets of institutional practices that actively grapple with the central questions facing U.S. Black women as a group. Such theory recognizes that U.S. Black women constitute one group among many that are differently placed within situations of injustice. (p. 31)

Therefore, the experiences of Black women require a unique lens for interpretation.

The reasons for a paucity of Black women in technology fields is strongly connected to the premises of Black feminist theory and the historical oppression of Black women at work (Collins, 2000; Lerner, 1972, Davis, 1981). It has yet to be discussed, when applying this theory of work to 21st century society, the impact of technology on Black women and their social, economic, and political status in American society. Information has become the key to power and computers have become the key to information. Where do Black women stand? Is their unique circumstance even factored in research into women and computers? By beginning with a study of young Black girls, the Black women of tomorrow, we can gain insight into why a chair is not even set aside at the discussion table for Black women.

CHAPTER 2

PURPOSE OF THE STUDY

I always considered myself a liberal person. I thought I understood that in American society there is more to success than merely hard work. However, I am and will always be a product of my environment. I was raised in an upper middle class home and went to one of the top Black colleges in the country. Although I was always told to treat others with respect, different messages, subliminal and otherwise, bombarded me. While I attended Spelman College, located in the heart of West End Atlanta, a low-income community, clear images about the people around in the surrounding community were transmitted to me on a daily basis:

We've told them how different they are from their brothers and sisters living in misery just outside the gates surrounding their campuses. We've allowed them to use terms like ghetto girl and project people and not stopped long enough to explain to them that this is unacceptable language with which to describe members of your extended family. (Cleage, 1993, p. 126)

At Spelman, we were subconsciously taught the people living around us were to be feared, that they envied our success, and wanted nothing but to bring an end to it. But while in that environment, constantly discussing with my fellow students issues of Black unity, we never realized that we could not achieve true unity until we included "those" people around us in the discussions.

When I began working in Queensbridge, I quickly realized I did not know nearly as much as I thought I knew, and my views were not as clear as I once thought. I found myself wondering why I had made it as far as I did, and "they" could not. Then I began

to reexamine who “they” were. I realized that my views, no matter how liberal, are not much different than those of most Americans.

To much of the American public, the state of the ghetto signifies not the gross inadequacy of the welfare state but its overgenerosity to a Black underclass that is morally dissolute, culturally deprived, and socially underserving. The underclass has been twisted into a racial rather than a class formation, and poverty has become a Black issue. (MacCleod, 1995, p. 241)

It is a horrible realization to come to and one that many people never do. Many people go through their lives believing that, “having more is an inalienable right, a right they acquired through their own ‘effort’ with their ‘courage to take risks.’ If others do not have more, it is because they are incompetent and lazy” (Freire, 1970, p. 41). Luckily, I was afforded the opportunity to look deeper within myself and into the lives of the people around me. I was given the chance to try to understand why Black girls from Queensbridge have no interest in pursuing careers in technological fields and the roles that race, gender, and class structures play in that lack of interest.

Conceptualizing the Problem

My research did not start out as clear-cut as it now appears. It did not even start out as a study of children. When I first began working at Jacob Riis Neighborhood Settlement House (the Riis), I was interested to understand why the adult women I was teaching felt technology was their ticket to a “better life” and more money. This was interesting to me in part because of the current dismal economic and social status of Black women in America (hooks, 2000). According to the 2000 census, the average annual wage for women over 16 was \$29,215, as compared to \$38,275 for men. Although Black women may not be working in domestic service at the rates of the past, “their overrepresentation as nursing home assistants, day-care aides, dry-cleaning

workers, and fast-food employees suggests, African-American women engaged in low-paid service work is far from a thing of the past" (Collins, 2000, p. 46). This overrepresentation is partially related to their lack of representation in high-end technical fields like engineering and computer science. Black women currently make up 4.6% of the population, but in 1998 represented only 0.7% of doctoral degrees in engineering and 1.4% of doctoral degrees in computer science (Hill, 2001).

However, what interested me even more was how Black women's views of technology and technology careers spoke to their attitudes about work in general. For them working in technology was not about making some life long dream come true, but instead about changing their current economic situation. Many Black women's work backgrounds have not encouraged them to develop views that work can be about fulfillment and empowerment. Instead the case for many is, "They know they will have to work, whether they are married or single; work for them, unlike to white women, is not a liberating goal, but rather an imposed lifelong necessity" (Lerner, 1972, p. xxiv).

This led me to wonder how young girls with hopes and dreams grow up into women who just want a good paying job. What is lost along the way? As I pondered this question, one group in the OurKids after-school program at the Riis began to catch my attention. The OurKids after-school program works with youth ranging in age from five to eleven years old. I noticed that the girls in the oldest group (nine through eleven years old) were already beginning to display stereotypical gendered behavior. However, according to much of the literature on girls and identity, they were too young to be exhibiting this behavior to such a degree. (Basow & Rubin, 1999; Brown & Gilligan, 1992). I also noticed the only tasks these girls wanted to do with computers were typing

and playing computer games. Their understanding of what it meant to use a computer was quite limited even though they were being exposed to technology on a daily basis. This was expected: After all, they were children and most children simply want to play. However, I noticed a clear connection between the views these young girls held and those of the older women in my computer classes. “Although girls readily concede that ‘all jobs’ will require computers, they admit that they are unclear about what this means” (American Association of University Women [AAUW], 2000, p. 61).

Many studies have been conducted about why girls typically enter technical fields at such a low rate (AAUW, 2000; Furger, 1998; Hrabowski, Maton, Greene, & Greif, 2002; Huang, Taddese, & Walter, 2000). However, although they mention the need for exploration, few of these studies explore the unique circumstances of Black girls, especially those from low-income neighborhoods. The combined effects of race, gender, and class on the life chances of a young Black girl are staggering. They must learn to negotiate different politicized spaces in order to survive and “all spaces carry the capacity and power to enable, restrict, applaud, stigmatize, erase, or complicate threads of youth identity and their ethical commitments” (Weis & Fine, 2000, p. xiii). This combined with a lack of Black female role models in technology leaves them uninterested.

It is readily accepted that many girls do not see technology as a viable career option simply because “the computer culture has become linked to a characteristically masculine worldview, such that women too often feel they need to choose between the cultural associations of ‘femininity’ and those of ‘computers’” (AAUW, 2000, p. 7). Therefore, one cannot simply place responsibility for this situation on the girls themselves. As Jonathan Kozol (1991) states in his groundbreaking work *Savage*

Inequalities, “People can only choose among the things they’ve heard of” (p. 62). I discovered many of the girls that ultimately became participants in my study did not even know what a computer engineer was or did. If they know nothing about a particular career, how can they aspire to that occupation?

However, I discovered was there was so much more to their lack of interest in technology than a lack of knowledge. After a profession was described to them the girls wanted to be a part of it even less. I needed to understand what they thought it meant to “work with computers” and why this was such a turn off. Although children between the ages of nine and eleven will change their minds frequently regarding future careers, the chances are slim that they will consider a career they have little exposure to and lack interest in unless programs are in place to provide exposure to that field (AAUW, 2000, 1999). The girls in this study had already decided they will never be computer engineers. For many this is not just a case of not wanting to be computer engineers, but also incorporates ideas about what is appropriate for girls and boys to do. As the American Association of University Women (2000) found, “They say that they are not afraid but simply do not want to get involved. They express a ‘we can, but I don’t want to’ philosophy” (p. 7). Another study conducted by the American Association of University Women (1999) found that, “Too many students make career choices in an information vacuum. Left to their own devices, girls and boys tend to self-select into fields traditional for their gender: Girls cluster in social sciences, health services, and education; boys gravitate disproportionately toward engineering and business” (p. 115).

For most girls, traditional fields are where they find themselves. Recent statistics state that only 6% of women are in “non-traditional” fields, and 3 of 4 minimum wage

workers are women (AAUW, 2000). This explains why, as stated previously, the median salary for women is so much lower than for men. The real money is in “non-traditional” fields, in which you will not find many women. The problem is that “our society doesn’t provide young girls with examples of women in technical positions—though there are clearly many women who fit that description” (Furges, 1998, p. 26). In order for the views and perceptions of young girls to change, there must be a concerted effort on the part of researchers, curriculum developers, funders, and policy makers to focus on this issue.

Evolving Focus and Research Questions

My original intention evolved into a plan to study the extent to which nine-, ten-, and eleven-year-old Black girls living in low-income housing understand the importance of Black women’s representation in technical fields. Yet, it is fairly ambitious to think that a nine- or even an eleven-year-old understands concepts of race and gender equality and her potential role and responsibility to break stereotypes. I realized this was an unrealistic choice of topic and decided to focus instead on placing the study in a context applicable to the girls with whom I was working. I wanted not only for them to understand what I was trying to find out, but also to carry out a study that would allow the reader to understand where these girls are in their lives and what thought processes they utilize when thinking about technology.

After conducting initial interviews and months of observations, I found my true focus for this study would be trying to understand the girls’ perceptions of the impact of technology on their lives now and in the future. In addition, I would explore how their views of race, gender, and class are demonstrated in discussions of technology. In this

study, I explore the following questions through the words and actions of eight nine-, ten-, and eleven-year-old Black girls living in the Queensbridge Public Houses:

1. How does the lack of presence of Black women in technology fields represent the historical oppression of Black women at work?
2. How do Black girls develop career aspirations and how is technology removed from this list?
3. What understanding do pre-adolescent Black girls have of the impact of racism, sexism, and classism on the lives of Black women?

My hope is that through interaction with these girls, I will gain a clearer understanding of how they view technology and what experiences can be created in order to broaden their understanding of computers.

Theoretical Framework

According to Yvonna S. Lincoln (1990), the paradigm you base your research on governs everything you do in your study from the beginning to the end. Some would say that a researcher chooses her paradigm and others would say that it chooses her. I believe it is a combination of both occurrences. Every person goes into a setting with certain preconceived values and worldviews. These worldviews shape the questions you ask and the way in which you approach a topic. Francis Carspecken (1996) quickly points out that although one chooses a critical perspective it does not determine what conclusions will be drawn from data collected. In his book on critical ethnography he writes:

Highly value-driven researchers like we criticalists most often feel compelled to conduct research as a way of bettering the oppressed and downtrodden. It is a personal need to do so, not exactly a choice. But that pertains to one's value orientation, or the reason why we conduct research and to our choice of subjects and sites to investigate. This orientation does not determine the "facts" we find in the field. (p. 6)

This frame of thought suggests that those who are interested in understanding and exposing power relationships will naturally gravitate toward critical theory.

But what of that word, “theory?” The idea of theory is one that scares many graduate students when beginning their dissertation. You are told you need to find a theory that encompasses your beliefs about the area you want to study. However, there are so many theories out there that seem to fit your particular topic, it is hard to narrow it down to one that will be the perfect fit. I knew I wanted my dissertation to speak from a critical perspective; however, initially I did not understand that critical theory is simply an umbrella for a wide range of theories that apply to different situations and different groups. The definition I feel best explains what can be considered a critical theory is:

A critical social theory is concerned in particular with issues of power and justice and the ways that the economy, matters of race, class, and gender ideologies, discourses, education, religion and other social institutions, and cultural dynamics interact to construct a social system. (Kincheloe & McLaren, 2000, p. 281)

I came to understand that I could not simply say that I was working from a critical perspective because that could mean anything from queer theory to race theory to feminist theory, all of which are considered critical social theory.

Upon further reading I came across *Black Feminist Thought* by Patricia Hill Collins (2000). In this book I found what I was looking for in every respect--I had my theory. As I read other works in the Black feminist tradition, I realized this was a theory that spoke to me and my beliefs, and took the perspective that research by and about Black women is not only about the subject but about the author as well. I initially felt like I was doing what everyone expected me to do, I was turning my study into one about race. I soon realized that as a Black woman everything is about race and “even after

substantial mastery of dominant epistemologies, many Black women scholars invoke our own lived experiences and those of other African-American women in selecting topics of investigation and methodologies used" (p. 258). Black feminist theory allows the researcher, actually it expects the researcher, to use her voice to give voice to her subjects. Otherwise those being studied are "left to carry the burden of representations as we hide behind the cloak of alleged neutrality" (Fine, Weis, Weseen, & Wong, 2000, p. 109). This was quite different from many of the other critical theories I had been exploring. This theory not only works for the emancipation of the subjects being studied but also hopes that through studying these topics, the researcher herself will also find freedom (hooks, 1992).

Rationale For Study

This study is based in Black feminist theory with the goal of empowering young Black girls to understand their self-worth and potential. Currently, Black feminist theory is one of those hot topics many women are utilizing to explain findings in ways that are empowering to the group being studied. However, this theory has never been applied to technology and the impact technology has on the future of Black women at work and in society in general.

One of my goals as a technology educator is to help people understand the implications of a technological society. When a new technology is revealed to a society it does not incorporate itself into the society. Instead the society grows and changes as a result of it (Postman, 1992; Apple, 1991). I am interested in understanding how pre-adolescent Black girls from a low-income community experience life and technology and its impact, now and in the future, on their lives. Their views will be based on their

experiences at home, in school, in their community, and at the Jacob Riis Neighborhood Settlement House. Many minority and low-income students are never really exposed to the true possibilities for their futures. One of the goals of my research would be to understand why these views exist and what individuals, organizations, or societal elements in their lives are validating them.

Another purpose of this study will be to explore the ideas associated with class attitudes and show how these factors relate to perceived ability to pursue technology careers. The class an individual belongs to says a lot about that person's beliefs and attitudes about himself and others. Beeghley (2000) explains Max Weber's description of class identification when he writes:

When people identify with a class, they are saying something in a symbolic way, about their experiences and their lifestyle preferences. They are identifying those with whom they prefer to interact in intimate ways, and they are commenting upon their taste in entertainment and other leisure time activities. (p. 38)

The class one identifies with factors heavily when developing expectations for ones future. As Jay MacCleod (1995) found in his study of the "Hallway Hangers" and the "Brothers":

In articulating one's aspirations, an individual weighs his or her preferences more heavily; expectations are tempered by perceived capabilities and available opportunities. Aspirations are one's preferences relatively unsullied by anticipated constraints; expectations take these constraints squarely into account. (p. 61)

These expectations will be displayed in my interviews and can act as a subconscious influence on attitudes about computers and how they feel computers impact their lives.

Technology has not empowered low SES students or students of color, but has instead helped to maintain perpetuate and even widen existing socioeconomic

inequalities. The goal of Black feminist theory is always to help subjects see what is happening around them. As Collins (2000) states so eloquently,

Rather than raising consciousness, Black feminist thought affirms, rearticulates, and provides a vehicle for expressing in public a consciousness that quite often already exists. More important, this rearticulated consciousness aims to empower African American women and stimulate resistance. (p. 32)

I hope this study gives voice to many people who are not normally heard, and leads to further discussions, research, and actions that help this group become more empowered.

CHAPTER 3 METHODOLOGY

This study explores the attitudes of young Black girls toward race, gender, and class through discussion about technology and its impact on their lives. The study uses their voices and actions to explain their views, and makes connections between their experiences and the collective experiences of Black women. In this chapter I will discuss the methodology used to collect data from my participants as well as the strategies employed to analyze these data. I will first discuss the type of study I conducted and why I chose to work from the Black feminist framework. I will then describe how I chose my subjects as well as how data was collected from them. To conclude, I will discuss the measures taken to ensure validity and reliability in the data collection and how, using the Brown and Gilligan's Listener's guide, I was able to analyze the data collected.

Theoretical Orientation

Although there are many different paradigms to choose from when beginning a new study, it is important that a researcher finds one that fits the question she is trying to answer (Mariampolski, 2001). Once a research paradigm has been chosen, the investigator must still decide upon a theoretical framework that suits the topic she has chosen to study as well as a lens through which she will view that topic. As Francis Carspecken (1996) writes, "Orientations provide the reasons why people conduct their studies. They therefore have a lot to do with the choices one must make when beginning a research project: what to study and to what end" (p. 6). However, there is no topic that

can be studied from only one perspective. “The value orientation of the researcher,” as Carspecken goes on to say, “does not ‘construct’ the object of study: the same ‘object’ can be examined for a large variety of reasons, under a large variety of motivations, and yield the same findings” (p. 6). I have chosen a topic that encompasses issues of race, gender and class and explores how these three issues manifest themselves in the lives of nine-, ten- and eleven-year-old Black girls and their views of technology. Because my study focuses on power struggles, the natural framework for me to work from is critical theory, and more specifically Black feminist theory.

Critical Theory

In 1923, the Institute for Social Research, which later came to be known as the Frankfurt School was founded in Frankfurt, Germany. Many scholars claim that this organization’s publication of *Traditional and Critical Theory* in 1947 marks the birth of critical theory (Nichols & Allen-Brown, 1996). In its earliest days after World War I, critical theory’s most prolific adherents were Max Horkheimer, Theodor Adorno, and Herbert Marcuse. Their viewpoints pushed other theorists to rethink how they viewed issues of power in society (Willis, Thompson, & Sadera, 1999). Soon after the establishment of the Frankfurt School, many of its members were forced to leave Germany for America because of the Nazi regime (McLaren, 1998). There they began to tackle the positivist structure that was then dominating social science research.

Offended by taken-for-granted empirical practices of American social science researchers, Horkheimer, Adorno, and Marcuse were challenged to respond to the social science establishment’s belief that their research could describe and accurately measure any dimension of human behavior. Piqued by the contradictions between progressive American rhetoric of egalitarianism and the reality of racial and class discrimination, these theorists produced their major work while residing in the United States. (Kincheloe & McLaren, 2000, p. 280)

Foreign to American researchers, this new way of looking at research piqued the interest of those whose viewpoints did not fit into what was at the time accepted as quality research.

Frustrated by forms of domination emerging from post-Enlightenment culture nurtured by capitalism, these scholars saw in critical theory a method of temporarily freeing academic work from these forms of power. Impressed by critical theory's dialectical concern with the social construction of experience, they came to view their disciplines as manifestations of the discourse and power relations of the social and historical contexts that produced them. (Kincheloe & McLaren, 2000, p. 280)

After World War II ended, Horkheimer, Adorno, and Marcuse returned to Germany and re-established the Frankfurt School, from which a new group of critical theorists emerged. The most contemporary critical theorist of the Frankfurt School was Jurgen Habermas, who moved away from his original agreement with the writings of Adorno and began to develop a different viewpoint of critical theory. His more contemporary writings expressed his goal of developing "a positive concept of reason in contradistinction to what he regards as an utterly negative concept of reason in Horkheimer and Adorno" (Crotty, 1998, p. 142). Contemporary critical theorists, like Henry Giroux, continue to challenge these negative concepts in their research.

So what is critical theory? What must be stated up front is that critical theory is not a single theory that governs all research, but includes multiple theories (Carspecken, 1996; Guba, 1990; Nichols & Allen-Brown, 1996). Therefore, unlike constructivism and positivism, there is no specific methodology that regulates critical theory. The methodology is not what is important because the goal of critical theory is to be

transformative and emancipate the community under study (Popkewitz, 1990; Smith 1990).

For this study, I have decided to use methods common to qualitative research because I am interested in answering questions of why. Much useful information has been gathered that clearly demonstrates the under representation of Black women in technology and also the importance of technical skills in the 21st century (Attwell & Battle, 1999; Coley, Cradler, & Engel, 1996; Hill, 2001). Unfortunately, there has not been a study that makes the connection between the power structure of American society (through issues of racism, sexism, and classism) and this lack of representation. This is where a critical theory perspective becomes useful, because one of the fundamental perspectives held by criticalists is that “power is a basic constituent of human existence that works to shape the oppressive and productive nature of the human tradition” (Kincheloe & McLaren, 2000, p. 283). As Randall Nichols and Vanessa Allen-Brown (1996) point out, technology has not empowered low SES students or students of color, but has instead helped to maintain and many times exaggerate already existing inequalities.

Black Feminist Theory

As stated previously, critical theory is an umbrella for any theory whose overarching goal is to expose distorted power relationships and help the oppressed to recognize their oppressor. Within this framework are individual social theories that address gender, race, class, sexuality, economics, culture, and many other topics. One critical social theory grew out of a need for scholarship that focuses on issues pertaining to the lived experiences of Black women. Because Black feminist theory has only

recently gained recognition and acceptance in academia, it is important to understand the history of the Black feminist movement.

It must first be pointed out that Black women have always played an active role in the feminist movement in America. However, many Black women were not accepted as contributing members by the mainstream feminist movement. The acclaimed feminist bell hooks (2000) writes about her experiences trying to be involved in the feminist movement in the 1970s when she writes:

When I participated in feminist groups, I found that white women adopted a condescending attitude towards me and other non-white participants. The condescension they directed at Black women was one of the means they employed to remind us that the women's movement was "theirs"—that we were able to participate because they allowed it, even encouraged it; after all we were needed to legitimate the process. They did not see us as equals. They did not treat us as equals. (p. 12)

Hooks expresses a sentiment, racism in the White feminist movement, that frequently goes unrecognized. However, this issue is of major concern to Black feminists because they are constantly being "made painfully aware of how little effort white women have made to understand and combat their racism, which requires among other things that they have more than superficial comprehension of race, color, and Black history and culture" (Combahee River Collective, 1986, p. 21).

Many of those who felt rejected by the feminist movement found themselves involved in the Black consciousness movement. However, this movement, for many Black women, was oppressive in many of the same ways as the feminist movement. One woman describes her experiences.

It took me three years to understand that Stokely was serious when he'd said my position in the movement was "prone," three years to understand that the countless speeches that all began "the Black man..." did not include me. I learned. I mingled more and more with a Black crowd,

attended the conferences and rallies and parties and talked with some of the most loquacious of my brothers in Blackness, and as I pieced together the ideal that was being presented for me to emulate. I discovered my newfound freedoms were being stripped from me, one after another. No I wasn't to wear makeup but yes I had to wear long skirts that I could barely walk in. No I wasn't to go to the beauty parlor but yes I was to spend hours cornrolling my hair. No I wasn't to flirt with or take shit off white men but yes I was to sleep with and take unending shit off Black men. No I wasn't to watch television or read Vogue or Ladies' Home Journal but yes I should keep my mouth shut. I would still have to iron, sew, cook, and have babies. (Wallace, 1986, p. 6)

These experiences and that of many other Black women led to the formation of the National Black Feminist Organization in 1973. The founding members of this organization did not want the feminist movement to be defined by a group that was not taking their needs and concerns into consideration (Joseph & Lewis, 1981; Davis, 1981). Although this new organization's agenda was not yet clear, "the overwhelming feeling that we had is that after years and years we had finally found each other" (Combahee River Collective, 1986, p. 20). Through this organization a formalized movement began, and this movement made a statement about what the mainstream feminist movement symbolized and, more importantly, did not symbolize. "Inserting the adjective Black challenges the assumed Whiteness of feminism and disrupts the false universal of this term for both Whiteness and Black American women" (Collins, 1998, p. 67). This new movement also brought about new ways of looking at research that is by and about Black women. Finally, the unique experiences of Black women could be explored from a perspective that did not see them as deviant or abnormal. Women were being encouraged to challenge existing paradigms and ways of knowing that placed Black women on the outside of what was considered normal. For example, in 1971, Joyce Ladner wrote *Tomorrow's Tomorrow* one of the first academically accepted studies of Black women

conducted a new Black feminist perspective. Ladner incorporated her experiences as a Black woman in America into her interpretation of the lives of the Black women she interviewed and observed. Other Black feminist writers have done similar things in their research in the areas of work, media, history, and feminist theory in general (Collins, 1998, 2000; hooks, 1992, 2000; Joseph & Lewis, 1981). As Patricia Hill Collins (1998) explains, “For Black feminist thought, remaining oppositional involves challenging the constructs, paradigms, and epistemologies of bodies of knowledge that have more power, authority, and/or legitimacy than Black feminist thought” (p. 88).

The design of this study is based on the premises of Black feminist theory in general. Specifically, the study’s commitment to exploring issues in which race, sex, and class are simultaneous factors in oppression is indicative of works done in the Black feminist tradition (Ladner, 1971; Cleage, 1993; Collins, 1998; hooks, 1992; Davis, 1981; Lorde, 1984). Through the voices of the girls I worked with, I began to see connections between their economic and social circumstances and their lack of interest in technology careers. The findings of this study are based in the Black feminist premise that Black girls experience being so on multiple levels and it is important to not only understand their daily lives, but also the social systems that shape these experiences. In this study I examine these girls’ experiences, views, and voices about technology from what Patricia Hill Collins (1998) refers to as the three levels of power that “frame” what Black women are. On the first level, the macro level:

Schools, labor markets, the media, government, and other social institutions reproduce a social position or category of “Black woman” that is assigned to all individuals who fit criteria for membership. (p. 226-227)

For the girls in my study, the community based organization, Jacob Riis Neighborhood Settlement House, and the schools they attend, constitute institutions on the macro level that have placed a label on these girls, delineating who they are. Another agent on this power level is the public housing system, which continues to label Black women poor, lazy, and immoral. The next level of power that Collins discusses is the meso level.

Black women as a group encounter accumulated wisdom learned from past interactions between what was expected of them as Black women and what they actually did. On this level, Black women develop strategies for how African American women grapple with these socially assigned positions. (p. 227)

On this level, Black women constantly remember past experiences and learn from their own past behavior and that of other Black women around them. The final level is the micro level, which encompasses daily behaviors and interactions. On this level Black women make daily decisions about how they will deal with specific situations. This is the only level that most people consider when discussing the struggles of Black women. The girls in my study continually struggle with this level of power. Choosing actions that either reproduce or combat expected behavior is a strategy they do not yet understand as their responsibility. All of these levels work within one another and shape one another. No one level controls another. As Collins states, “Collectively, these levels of social structure frame what Black women as a group are, what they do and what they might think” (p. 226). I feel that only through the lens of Black feminist theory can the lives of these young Black girls be truly understood.

One major concern of this theory is the relationship of Black women to work. Many Black women have been forced to approach work as a means of survival and not as a way to meet childhood dreams (Collins, 2000; Lerner, 1972; Joseph & Lewis, 1981;

Davis, 1981). Unfortunately in American society, the job you hold often serves to determine the type of person you are (Popkewitz, 1990). Therefore, as a critical social theory, Black feminist theory is intended to do more than draw attention to unjust situations. Theorists working in this framework are more concerned with exposing these inequalities to the public and providing a means for unraveling the system of dominance (Collins, 2000).

Self-Efficacy Theory

Important to the emotional development of Black women is the self-efficacy theory, developed by Albert Bandura, which I will use as a mid-level theory for this dissertation. An offshoot of social learning theory, Bandura believed that “those with high self-efficacy expectancies generally perform better in learning and life situations than those with low self-efficacy expectations” (Leonard, 2002, p. 168). This theory emphasizes that ability is not the sole factor in determining achievement in an individual; it is also important what the person perceives as her ability (Bandura, 1977; Miller, 1983; Schunk, 1997). Bandura also found that the focus of one’s sense of self-efficacy changes throughout life. For example, he notes that during adolescence is a growing focus on “occupational competence” (Miller, 1983, p. 207). Success or failure during this stage can often determine what career choices a child sees as feasible for herself. It is also important to note that a person’s notions of self-efficacy are situational. Thus a child can feel highly confident in one area and yet completely lack confidence in another.

This is applicable to my perceptions of the girls’ comfort levels and achievement expectations with technology, especially given the developmental stage they currently occupy in their lives. Bandura believed that high self-efficacy toward a given goal is

“achieved through positive past experiences, reinforcement from the environment, and encouragement from mentors” (Leonard, 2002, p. 168). In this study I found many of the girls discussed the need for positive role models in technology to emulate, which is supported by research on self-efficacy (Schunk, 1997). Many of the girls I worked with had never met anyone who worked in a computer field and had developed stereotypical views of what these jobs involved.

Locating the Study

Participants

One of the most important aspects of a quality research project is the selection of participants to study. In quantitative research, a representative sample is chosen in order to allow any findings to be generalized to larger populations (Ray, 2000). Although this type of sampling is ideal for research, it is not realistic for most qualitative studies. As Robert Weiss (1994) writes, “Because each respondent is expected to provide a great deal of information, the qualitative interview study is likely to rely on a sample very much smaller than the samples interviewed by a reasonably ambitious survey study” (p. 3). In addition, the purpose of qualitative research is much different than that of a statistical study. Qualitative research usually requires looking at an issue in greater depth than for a quantitative one, therefore the sample size will usually be much smaller. Also qualitative researchers frequently study a phenomenon that is unique to a specific group and, therefore, will use purposeful sampling in order to only study those to whom the phenomenon applies (Glesne, 1999). In studies that explore issues of race, gender, or class, it is important for the researcher to actively seek out a site where these issues are in the forefront (Emerson, Fretz, & Shaw, 1995).

Participant selection

For this study I interviewed and observed eight girls ranging in age from nine to eleven years old that are or were part of the OurKids Afterschool Program at Jacob Riis Neighborhood Settlement House. These girls were selected using homogeneous sampling, the purpose of which is to select participants that are similar (Glesne, 1999; Morgan, 1997). All of the girls chosen are African American and live in the Queensbridge Houses, a public housing project in New York City. They all also attend public schools within the community. District 30, the school district that Queensbridge is in, is considered a failing district, and most of the schools that my study's participants attend are failing schools. At P.S. 111, attended by many of the girls in my study, only 20.8% of the students passed the citywide exams in 2001. This is compared to an average passing rate of 45.3% for New York City (New York City Department of Education, 2001). In addition to the girls interviewed individually, a larger group met weekly for ten weeks in a focus group. This group always included the eight girls that took part in the one-on-one interviews with me.

I felt it was important to work with this particular group of girls because of my interest in the combined effects of race, gender, and class. As low-income Black girls, they experience the world very differently than other girls in the United States. Basic demographic data about the girls interviewed can be seen in the following table.

The girls

At the beginning of the first interview, I asked each of the girls basic information about themselves and their families. Table 1 shows the responses to some of the questions:

Table 1. Participant Characteristics

Name	Age	Grade	Self- Selected Descriptors	Aspirations	One/Two Parent Household
Chattara	11	6 th	Funny, kind, loving	Doctor, Scientist	Two
Rachel	11	6 th	Shy, funny	Pediatrician	Two (Stepfather)
Lisa	11	6 th	Creative, smart, friendly, skillful	Lawyer	One (Mother)
Monica	11	5 th	Smart, pretty	Veterinarian	One (Mother)
Katie	11	5 th	Smart, beautiful, intelligent, special, talented	Teacher, basketball player	Two
Latisha	11	5 th	Active, pretty, smart	Teacher, dance instructor, judge	Two (Stepfather)
Sheila	11	5 th	Beautiful, pretty, smart, unique	Artist	One (Mother)
Victoria	10	5 th	Smart	Veterinarian/ Zookeeper	Two

Chattara. Chattara is the youngest of three daughters in her family. Her parents are still together and work in home security and office management. She is an extremely intelligent individual who wants to be a doctor, and describes herself as funny, loving, and kind. Currently one of the older girls in the program, Chattara has begun to outgrow the programs being offered by Jacob Riis and will probably soon move into another program for older participants.

Rachel. Rachel is an eleven year old who is seen as one of the favorites of the group. She works hard in school and seems to do well. Although she is well liked by the girls in the group, she often says little and stays in the background. From my discussions with Rachel I think that she has been able to maintain an attitude that everyone is equal. During many of the focus groups, Rachel took the role of the voice of tolerance when discussing differences between the races.

Lisa. Lisa is a confident sixth grader who is inquisitive about the world around her. She always appears happy and upbeat, and is willing and eager to learn new things.

In the group, Lisa is the one who seems to speak from a place of knowledge and looks at things from other people's perspectives. She describes herself as creative, smart, friendly, and skillful and wants to be a lawyer. Her self-confidence is quite impressive given that she is moving into adolescence, a time when many girls become more critical of themselves. From conversations with Lisa it is obvious that her mother discusses with her issues of gender, race, and class. When she speaks, she speaks with the maturity of a twenty year old, and her comments are more grounded in reality than the responses of the other girls.

Monica. Monica is an energetic, sometimes-rambunctious ten year old.

Although Monica is considered quite smart, she is easily bored by school and therefore does not achieve at the level she could. She describes herself as smart and pretty and wants to be a veterinarian when she grows up because she has always liked animals. Monica is an obvious leader in her group and many times challenges the people around her, including adults. Although this can sometimes cause problems for her, it is a rare trait to see in young girls.

Katie. Another leader in the group is Katie, a ten year old who wants to be a teacher or basketball player. Although on the surface Katie appears to be a quiet, shy girl, she is quite powerful within the group and appears to exude confidence to her peers. For example, in our first interview, Katie was reluctant to tell me the words she would use to describe herself. However her confidence soon emerged. Katie was one of the few girls in my subject group that openly expressed the view that white people and black people are different. When asked to describe characteristics of teachers she responded that teachers are white and women.

Latisha. A talented and clear leader, Latisha is ten years old. She wants to be a fashion designer and is involved in many extracurricular activities outside of the community center. Latisha's mother is very involved in her life and tries to expose Latisha to as many opportunities as possible. Her parents are together and have worked hard to give Latisha a stable and normal childhood, which some of the children in Queensbridge do not have.

Sheila. Sheila is a small, quiet girl in her group. Talented in a variety of areas, she wants to be an artist. Eleven years old, Sheila seems to have an inner glow about her that shines through. It is almost as though she knows something that no one else knows, and it keeps her happy. She describes herself as beautiful, pretty, smart and unique. She currently lives with her mother. Although she has brothers, she does not live with them and did not want to share with me why this is so.

Victoria. Victoria is a thoughtful ten year old that wants to be either a veterinarian or a zookeeper. Within her group Victoria is well liked and accepted, but often quiet and afraid to share her opinion with the group. During the weekly group discussions, Victoria never volunteered her opinion. She seems concerned with how she appears to others, and how they see her. When asked to describe herself, she would only say that she was smart.

Location

The site: Jacob Riis Neighborhood Settlement House

New York City is home to thirty-seven different settlement houses all of which strive to "address the needs of families and to serve as a forum for community voice and problem solving" (Brown & Barnes, 2001, p. 79). Located in the heart of the Queensbridge Houses, Jacob A. Riis Neighborhood Settlement House (known as the

Riis) stands as a symbol of the constant battle between good and evil that residents struggle with daily and represents the never changing goal of settlement houses. Directly across the street from Jacob Riis are scores of drug dealers hoping to lure people away from the services offered by Jacob Riis, and into their underworld.

The Jacob A. Riis Neighborhood Settlement House opened its doors in 1888 on the lower east side of Manhattan. Its founder, Jacob Riis, was a social reformer who worked to expose the living conditions of the poor in New York City. His most famous work, *How The Other Half Lives*, originally published in 1890, explicitly describes what he found as he photographed the people living on the Lower East Side of Manhattan. His work shocked and amazed. In this book he detailed the plight of all races including Blacks. After a discussion concerning the state of Blacks living in tenements, he eloquently states

I have touched briefly upon such facts in the Negro's life as may serve to throw light on the social condition of his people in New York. If, when the account is made up between the races, it shall be claimed that he falls short of the result to be expected from twenty-five years of freedom, it may be well to turn to the other side of the ledger and see how much of the blame is borne by the prejudice and greed that have kept him from rising under a burden of responsibility to which he could hardly be equal. And in this view he may be seen to have advanced much farther and faster than before suspected, and to promise, after all, with fair treatment, quite as well as the rest of us, his white-skinned fellow-citizens, had any right to expect. (Riis, 1890/1997, p. 119)

Jacob Riis Settlement House operated for over 60 years in that location in Lower Manhattan offering a wide range of services to new immigrants. In 1950, it was moved to Queensbridge Houses, in Queens, to meet the growing needs of that community. After several years of being poorly run, drug dealers took over Jacob Riis and it became the local hub for illegal activity. Many a night you could witness a police officer chasing a

drug dealer through the halls of Jacob Riis. As funding dwindled so did support for the Riis and it almost closed its doors at one point. The executive director at that time was known to be embezzling money and was finally ousted by the board of directors.

Bringing in a new executive director was a difficult step. No longer was the Riis to be open to drug dealers. The new executive director quickly began to re-orient the settlement house toward its original purpose of serving the needs of the community through active involvement in the development of new programs and hiring of new staff. The executive director's mission was met with much hostility. However, 13 years later an incredible difference can be seen. A range of services is offered to the community from after-school programs to ESL classes. As the expertise of staff continues to grow, so do the quality of services.

I came to the Riis in 2001 and have been an employee of the settlement house as well as an observer ever since. From my observations, the Riis is currently in a time of growth and will see many more changes in services and structure over the coming years. I decided that this setting was appropriate to conduct my study not only because of its role in the community, but also because of the structure of the OurKids after-school program. Understanding the importance of girls and boys having a safe space to explore identity and gender issues, the OurKids program separates the girls from the boys in the after school program.

The setting: Queensbridge Houses

Let me first describe the community. Queensbridge is unique. It has an aura of anger and distrust, but also a freeness that people living in the community feel. The young girls I interviewed love living in Queensbridge because they are somewhat

sheltered from the violence and able to look past that to their friends and family. When Queensbridge was built it was designed to avoid the stereotypical problems of high crime rates and isolation that many low-income houses experience. It is the largest housing project in the United States, with 91 buildings on six different blocks. Each block has either a playground or a basketball court, as well as benches for people to sit and gather. The buildings are only six storeys high to avoid the overcrowding and dangers that are common in high-rise housing projects. Still, some blocks are seen as more dangerous than others and dark areas are inhabited by drug dealers and users.

In the middle of Queensbridge is the area called the Hill. Riis is in the middle of the hill and surrounded by different stores. There are two small grocery stores, a laundromat, dry cleaner, hair salon, pizza shop, fish store, Chinese restaurant, small "pharmacy", candy store, junk shop, and clinic. Only one train comes into Queensbridge and only two buses pass through the neighborhood. Therefore, those who are not trying to come into the projects need never enter them.

The racial homogeneity of the Queensbridge Houses is typical of housing projects across the United States. There is little to no racial or economic diversity in the community racially or economically, with 60.4% of residents being African American.

Methods

As previously stated, although many studies have looked at issues relating to girls and technology, none have explored, in depth, the combined effects of racism, sexism, and classism, especially through the experiences and words of young children. In Debra Van Ausdale & Joe Feagin's (2001) study of pre-school age children's understanding of race, they stated, "Only occasionally have researchers sought children's understandings

directly, beyond brief responses to check-off tests. Only a few studies have actually interviewed children or made in-depth, long-term observations to assess their racial, ethnic, and other social attitudes" (p. 11). Often this is due to the fact that researchers are reluctant to give up their assumed position as the holder of information when it pertains to children. In order for a study of children to be successful, researchers must "challenge the deep assumption that they already know what children are like, both because, as former children, adults have been there, and because, as adults, they regard children as less complete versions of themselves" (Thorne, 1993, p. 12). As Paulo Freire (1970) points out several times in his writings, "One cannot expect positive results from an educational or political action program which fails to respect the particular view of the world held by the people" (p. 76). Therefore, a researcher must go into a study with children open to whatever views the children bring to the table.

In this study, I attempt to speak for the children with whom I have worked. Through their voices, I try to "take the closely familiar and to render it strange" (Thorne, 1993, p. 12). In order to do this I have chosen a variety of methods common to qualitative research because when working with children, it is best to interact with them in many different settings and forms. A timeline of my research process can be found in Appendix A. I found when working with the girls in my study that their behavior and openness varied depending on the environment. Therefore, it was important to combine many different methods of data collection in order to gain a clear picture of their lives, and strengthen the study (Morgan, 1997). In the coming paragraphs I will describe the three methods of data collection I have chosen to use for this study: semi-structured interviews, focus groups, and observations. The use of multiple forms of data collection

allows for triangulation of methods and a more well-rounded view at the girls (Glesne, 1999).

Semi-Structured Interviews

The most common method of data collection in qualitative research is the interview. This method creates a window into the world of those whose experiences would normally go undocumented. In his book *Learning From Strangers*, Robert S. Weiss (1994) explains the importance of the interview when he writes:

Interviewing rescues events that would otherwise be lost. The celebrations and sorrows of people not in the news, their triumphs and failures, ordinarily leave no record except in their memories. And there are, of course, no observers of the internal events of thought and feeling except those to whom they occur. Most of the significant events of people's lives can become known to others only through interviews. (p. 2)

Although researchers have made claims about the reasons why specific groups do not have a significant presence in the technological field, it is important to hear from the mouths of those affected. In her groundbreaking studies of adolescent girls Carol Gilligan (1993) focuses on the words of the girls and women to show the viewpoint of that group. She writes that it is important to allow the words to speak for themselves, that when trying to understand another groups point of view "the way people talk about their lives is of significance, that the language they use and the connections they make reveal the world that they see and in which they act" (Gilligan, 1993, p. 2).

To this end, I conducted two rounds of semi-structured interviews with eight girls who are participants in the OurKids after-school program at Jacob Riis Neighborhood Settlement House. All interviews were tape-recorded and transcribed verbatim for coding and analysis. The interview protocols used for both sets of interviews can be found in Appendices B and C. The first round of interviews was conducted during the months of

March and April 2002. The follow-up interviews were conducted in February 2003. In the development of interview questions my guiding principle was from Corrine Glesne's work (1999), "Your research questions formulate what you want to understand, your interview questions are what you ask people in order to gain that understanding" (p. 69-70).

At the time of the first interview in 2002, the girls were all between the ages of nine and ten years old and in grades four and five. A one-hour initial semi-structured interview was conducted, and each girl was given the option of not answering any question she was uncomfortable with, and this was an option many girls exercised during the interview. Instead of a more structured interview protocol, I opted to rely more on open-ended questions to allow the girls to drive the conversation. Weiss endorses this approach and feels that, "Permitting the respondents to talk about what the respondent wants to talk about, so long as it is anywhere near the topic of study, will always produce better data than plodding adherence to the guide" (Weiss, 1994, p. 49). As can be seen from the questions in Appendix B, the first interview was exploratory in intention, seeking to learn about who the girls were and where they lived. . The purpose of the interview was to gain preliminary information about the participant's background and personal situation, as well as their views concerning race and gender.

For the second round of interviews, one year later, fewer girls participated because many had not returned to the OurKids program. Therefore, only eight girls took part in the entire study. The protocol for this interview was based on data collected in the first round and was used to clarify and gain more in-depth information about the now more narrowly focused topic. As can be seen in Appendix C, the second round of

interviews consisted of questions that focused on the girls' perceptions of work as well as prior experiences with computers that might have shaped their current views. During the second interview, the participant was asked more in-depth questions about her understanding of technology and its impact on her life.

Focus Groups

Between the two interviews, all of the girls being interviewed participated in a ten-week focus group with myself as the facilitator. Nine other girls that had declined the individual interviews also participated in the focus groups, so that the group had between thirteen and eighteen girls weekly. Each week a different topic was discussed that related to the overall goal of understanding their views of technology in their lives (see Appendix D). The goal of a focus group is "bringing together people who have certain things in common (age, social class, gender, interests) to generate a structured conversation around certain topics" (Jhally & Lewis, 1992, p. 10). I decided to conduct these focus groups in addition to the individual interviews because I found after conducting a few of the interviews that girls who I knew to be outgoing and extroverted with their peers were quiet and withdrawn when alone with me. In addition, in a previous study that I conducted dealing with black and white students' interpretations of rap music lyrics, I found the focus group method to be useful in eliciting honest and open responses from the participants. This view is supported by literature, which states, "Peer pressure in a focus group can support honest disclosure. Participants may be less likely to falsify their attitudes if they perceive themselves to be among similar types of people" (Mariampolski, 2001, p. 48). Often, people who are shy in a one- on-one interview are more forthcoming in a group setting because they feel others in the group validate their

views. However, the moderator must be careful that this group setting and peer pressure does not cause participants to suppress views that may differ from that of others in the group (Mariampolski, 2001). I feel that the combination of the focus groups and the individual interviews provided a well-rounded look into the thoughts of these girls. Information ascertained in the focus groups could later be checked in the individual interviews to verify that the girls were not expressing views in the groups they did not really agree with in order to be accepted by their peers.

David L. Morgan (1997) states that there are three areas of consideration in the development of a focus group research design. The first is the relationship of the participants in the group. He states that members of the group being interviewed should be fairly similar. As stated previously, the participants in this study were all Black girls between the ages of 9 and 11. Therefore, the number of variables to be considered was minimized. This rule usually requires that the participants be strangers, however he does state that there are many circumstances where it is nearly impossible to develop a group of participants that do not know each other. In this project, the location of the study did not allow for the selection of subjects that would be strangers to one another. Because all of the girls selected were participants in the after-school program, they were all quite familiar with each other. I also believe that in studies where children are involved it is more productive, in the development of high levels of conversation, if the participants know each other.

The second rule for focus groups concerns the size of the group. Morgan (1997) states that when considering the size of the focus group the researcher should take into consideration, "the amount that each participant has to contribute" (p. 42). All eight of

my research participants are part of the after school program at the Riis. In order to allow my research to be conducted in a timely fashion that would not be disruptive to the program, more girls than those interviewed participated in the focus groups. Not only did this allow me to interact with other girls of the same age and background as those I was interviewing, but it also allowed me to always have enough girls to facilitate a lively discussion. The size of the group each week ranged from 13 to 18 girls.

A third consideration is the role of the facilitator in the focus group. It is expected that in a structured focus group, unlike an individual interview, the facilitator will be highly involved. This is appropriate when the research question is known ahead of time, and there is a “preexisting agenda for the research” (Morgan, 1997, p. 39). In this study, I developed the focus group questions for two reasons. The first was to supplement the data collected in the individual interviews. The second reason was to gain more insight in order to answer the research questions that had been previously determined. When working with a focus group it is important to begin the session with an icebreaker, which helps to set the mood and allows the participants to gain insights into the topic under investigation. For this dissertation I started the first group with an activity that allowed them to do two things: set the rules for interaction and develop a group name. I asked the girls to tell me what they felt should be the rules for the group. They chose such issues as not making fun of each other, allowing only one person to speak at a time, and other typical discussion rules. I next asked them to help me develop a consequence list for rule breakers. We decided that a transgressor would have to apologize to the group for disrupting the discussion. The next activity involved developing a name for the group. Each girl was given markers and a sheet of white paper and was asked to draw a logo for

a t-shirt that incorporated what they felt the name for the group should be. When this was done the group voted on which name it liked best. With the help of the girls' Jacob Riis' group leader and myself we agreed that the name of the group should be "Selfish Girls" to be used for the remainder of the discussion groups.

The final consideration when conducting a focus group is how the data from the focus group will be collected. Some researchers choose to rely solely on their notes, while others utilize more high-tech methods, such as videotaping. For the first focus group session with the girls I chose to videotape, however, as Morgan (1997) notes, videotaping can be quite intrusive. The girls were so fascinated by the camera in the room that they had an extremely difficult time concentrating on the questions and discussions. Although it is not advisable to change recording methods after data collection has begun, I found that the use of a video camera would be more disruptive to my study than a decision to change to audiotape. Therefore, for the remainder of the sessions, I decided to utilize the more traditional method of audio recording. During the sessions I took detailed notes, and was able to supplement these notes with the audiotapes to extract useful quotes that exhibit the point being expressed.

During many of the focus group meetings, the girls filled out surveys to help collect basic data that were later used for discussions. These documents, created by myself, allowed me to quickly ascertain simple information about the views the girls held, as well as check statements they made during interviews and focus groups. As Corrine Glesne (1999) points out, "They enrich what you see and hear by supporting, expanding, and challenging your portrayals and perceptions" (p. 59). The written

information I was able to gather from the girls in the study proved extremely useful in checking the validity of their statements.

Observations

The final method used to supplement the interviews were the observations I made over the course of a year when the girls were participating in the after school program at the Riis. Although I gathered rich data from my interviews and focus groups, I found it important to supplement that data with my own observations in order to “learn firsthand how the actions of research participants correspond to their words” (Glesne, 1999, p. 43). During my first couple of weeks at Jacob Riis and in Queensbridge, I was able to find time to work solely as an observer and take detailed notes about the situations I was observing. Unfortunately, as I became more integrated into the community center, it was impossible for me to play the role of impartial observer, or even the more accepted qualitative role of participant observer. Instead, most of the time I was a full participant in the groups I observed, “simultaneously a functioning member of the community undergoing investigation and an investigator” (p. 44). Although this often did not allow me to take in as much of what was happening in the room as someone who was not participating, this position allowed me to develop strong relationships with the girls in my study. Most of my observations come from the work I did helping during the computer classes and sometimes filling in as a substitute group leader for the girls. During the year of my observation, a new Lego Robotics program was introduced to the girls in the after school program. I observed their initial reaction to the new program as well as their interactions with one another during classes. I supplemented these observations with

notes from the other components (literacy, art, recreation), and their interactions during those components. This allowed me to find behaviors unique to the computer class.

My role as a participant presented an issue concerning note-taking during observations. Unfortunately, most of the time, I was not able to take notes while observing the girls. However, I did my best to recreate the situation in my field notes immediately after the observations were completed, and no later than that evening at home. These notes were supplemented by my own perceptions of events. All observation notes were coded using the same procedure as for the interviews. Because of my inability to take notes while observing, my field notes from observation are not a crucial part of my data collection, but are instead used to supplement and verify data gathered in the interviews and focus groups.

Data Analysis

Although my methods do not reflect one specific research paradigm, the analysis of data is very much critical and feminist in nature. Many experts in critical theory do not find this unusual. Kincheloe and McLaren (2000) write, “Although there are many moments within the process of researching when the critical dynamic of critical theory-informed research appears, there is none more important than the moment of interpretation” (p. 285). The themes being explored in this study are wholly Black feminist in nature. However the method of analysis is one used in more mainstream feminist studies exploring a wide range of topics, many of them not related to race.

By utilizing the data collected from the interviews, focus groups, and observations, I was able to triangulate the data during my data analysis process. The first phase of analysis used to code all data was open coding. This method allows the

researcher to develop subject codes by reading through the data line by line, and associating codes with each new topic (Strauss & Corbin, 1998; Emerson, Fretz, & Shaw, 1995). Similar codes are grouped together to develop themes for further exploration. This method allows the researcher to “see new possibilities in phenomena and classify them in ways that others might not have thought of before” (Strauss & Corbin, 1998, p. 105). When utilizing this phase with my data, I was able to group like themes together in order to find similarities between information I gathered from the girls, and begin to draw conclusions pertaining to their views.

The second phase of analysis used Brown and Gilligan’s (1992) Listener’s Guide. This method suggests that dialogue with individuals, especially girls, reveals different things depending on the listener of that dialogue. They therefore encourage researchers to conduct four listenings of their data to get a true sense of what the person is saying.

The four listenings suggested by our guide are ways into the complexity of voice and relationship. Working with audiotapes and transcriptions enables us to sound and re-sound, trace and retrace voices through the interview process. At the same time, we note the myriad shifts that occur in moving from the present moment of the relational drama to the audiotape of the conversation, to the written record or transcription. (p. 26)

In the first listening the researcher listens to the story as a whole, picking it apart as though it were a fictional tale.

Like a literary critic or a psychotherapist, we attend to recurring words and images, central metaphors, emotional resonances, contradictions or inconsistencies in style, revisions and absences in the story; as well as shifts in the sound of the voice and in narrative position: the use of first-, second-, or third-person narration. (p. 27)

When I did this, after the first round of interviews, many themes emerged that helped me develop the questions for my second interview as well as areas to focus on for my observations.

In the second listening the researcher focuses on the use of “I” by the speaker. How does she talk and feel about herself in relationship to other? This is useful in order to help the researcher develop a voice for her subject so that she understands, “how she speaks of herself before we speak of her” (p. 28). I found that this listening helped me refute research concerning self-esteem in young girls. This listening also helped me understand how the girls see themselves when discussing their ability to use and proficiency with computers.

The final two listenings are what make this analysis method feminist in nature, by looking for discussions of relationships and events that are limiting or empowering to the girls.

We do this by listening in the interviews for signs of self-silencing or capitulation to debilitating cultural norms and values—times when a person buries her feelings and thoughts and manifests confusion, uncertainty, and dissociation, which are marks of a psychological resistance. (p. 30)

Because of the goals of this study, this form of listening was essential to the process, and consistently used through data collection and analysis. After gaining a clearer understanding of how the girls see themselves, the third and fourth listenings gave clarity to my conclusions. By the time I reached this stage I knew the girls fairly well, and was able to better “hear” what they were not saying as well as what they were saying.

Validity And Reliability

Paramount to the issues of reliability and validity are the overall goals of the research. The goals of qualitative work are different from those of the quantitative kind, and these goals are the reasons many have chosen to abandon positivism and its more current form post-positivism (Lincoln, 1990). When discussing traditional “science,”

validity and reliability have very concrete meanings relating to ideas such as instrument preparation, sampling, and generalizability to the entire population (Ray, 2000). However, these are not the goals of qualitative research. Instead, qualitative researchers are concerned with in-depth interaction with a specific population, and understanding how that population views itself (Lincoln, 1990). In this type of research, questions of subjectivity and objectivity become legitimate concerns, whereas subjectivity was something to be avoided at all costs in the past. However, as Phillips (1990) notes in *Subjectivity and Objectivity*, the notion that humans cannot realistically be completely objective in their research is no excuse for an “anything goes” approach. Therefore, all researchers, whether qualitative or quantitative, have an obligation to strive for reliability and validity, albeit in a modified form.

Popkewitz (1990) notes that good research in empirical studies was always judged on methods, and therefore you could determine if someone performed a quality study by how good their methods were. This changed slightly with post-positivism, which still focused heavily on methods and the “how-to” questions, but also began to look to the research community as its judges (Phillips, 1990). As larger numbers of researchers began to abandon empirical paradigms all together, qualitative work became a more accepted mode of research. This meant that new guidelines needed to be set. If researchers are now admitting that humans by nature are subjective and influence their research, how do you tell good research from bad research? Although, there are no “standard” rules or checklists for quality research in qualitative work, there are some guidelines that everyone can follow in order to help insure the quality of their work. Below I will discuss each of those guidelines and how they were addressed in this study.

The first of these is accuracy in reporting (Wolcott, 1990). One way to ensure this is to begin your writing early. Marshall (1990) discusses that the sooner a researcher writes down his/her observations the more likely accuracy is to be maintained. Emerson, Fretz, and Shaw (1995) agree with and have written an entire book, *Writing Ethnographic Fieldnotes*, discussing this issue. They believe researchers should dedicate time every evening to writing up their notes in order to retain as much of what happened as possible. This also develops an audit trail of the research process. This is necessary not only for accuracy but also to help the researcher understand what to look for in forthcoming observations. These notes should not only include what happened, but also descriptions of the researcher's own thoughts about the observation. I kept extensive notes of everything that was happening around me within Jacob Riis and the community at large. When writing up my analysis, this allowed me to remember incidents and observations that happened in the past. As Appendix A chronicles, I documented my research process through the use of a field journal, which at many times was shared with my committee chair. Her external audit of my research process lends another level of validity to this study (Glesne, 1999).

Although, depending on the situation, tape-recording may not always be an option (Emerson, Fretz, and Shaw, 1995), another way to maintain accuracy is to tape-record as much as possible (Wolcott, 1990). By doing this you are eliminating the need to completely rely on your memory of the situation in order to re-enact it. In the appendix of *Ain't No Makin' It*, Jay MacLeod (1995) discusses his research methodology. MacLeod emphasizes how much easier his research became when he started tape-recording his interviews. He states that, not only was his documentation more accurate,

but the tape-recorder freed him up to take notes of his own. In this study, all interviews and focus groups were tape-recorded and transcribed for future reference.

Another important method when looking for quality in ethnographic work is triangulation (Marshall, 1990). This means that the researcher should consult multiple sources in order to gain knowledge from different perspectives. Glesne (1999) notes that this should also include some form of negative case analysis, where the researcher not only looks for data that supports already observed themes, but also actively seeks out information that could refute her claims. Triangulation also helps to insure, what Wolcott (1990) calls, “rigorous subjectivity” (p. 133). This means that although ethnographic researchers do not have the ability to be completely objective, they should constantly think about their own personal biases throughout the study. This can also be done through self-reflection (Smith, 1990), and reporting openly any biases that have influenced your research (Wolcott, 1990; Marshall, 1990). Throughout this study I have discussed my observations with the staff at Jacob Riis and looked to them for feedback. I also was conscious in my analysis to not only focus on those events and discussions that support my viewpoints, but presenting the negative cases as well.

A final suggestion given when writing the manuscript is to gain feedback throughout the process. This can take many forms and should start from the first draft. In any research study it is important to take the data back to the subject for validation. However, in a study based in critical theory it is essential in order to help equalize the power relations. Member checking allows the subject to make recommendations on how they are represented in the study (Glesne, 1997, Carspecken, 1996). Once the participant has reviewed the interpretation, she can decide if she feels it accurately portrays her. If

there is a disagreement in the analysis between the researcher and participant, the researcher must decide how these differences will be reconciled.

For this study, I felt it was important that I take the data back to the girls so they could critique it to ensure I was representing them in a way they wanted. On Friday, May 9, 2003 I hosted an end-of-project party for the girls. During this party I explained my analysis in the simplest terms I could. I then allowed the girls to critique this analysis. However, because of their young age I was conscious of the fact that they might not understand my interpretation, and thus did not feel I should solely rely on their responses to determine the validity of my analysis. In cases such as this, Carspecken (1996) states that, "you have a moral duty to include their views as alternatives to your own in the final write-up" (p. 141). In order to adhere to this, I have included their critiques in Chapter 6. In addition, I have included comments they made during the party concerning how they feel others should view them.

It is advisable to use others in the research community as editors to see if they find similar themes in your data. You should also give the data back to the community under study for analysis and comments. The subjects should always have the final word in how they are represented (Wolcott, 1990). I have continually discussed my research with my participants. Although the language of my dissertation is advanced for the girls, I have discussed what is written with each of them. The adults in this study have all had the opportunity to read and revise their interviews as well as the entire dissertation. In addition, the data were taken back to the girls to allow them to verify or refute the conclusions I drew from their words and actions.

Everything I have discussed so far has dealt with what would traditionally be called internal validity. However, empirical researchers are also concerned with external

validity, or how a study can be generalized to an entire population (Ray, 2000). This usually means that a researcher sampled participants that would allow assumptions to be made about the larger population. However, this is rarely the goal of qualitative research. Although generalizability is discussed, the term has a different meaning than it would within the positivist approach. Donmoyer (1990) does not believe that generalizability in the sense of large samples being extended to the population is valid for qualitative research. Lincoln and Guba (1985) agree with this and believe that the notion of “transferability” is more appropriate. The transferability of a study denotes how well one study can be used as a basis for a similar study. In qualitative research the responsibility in transferability falls on the reader. When reading a study, the reader should be able to determine, based on the information given, whether or not he or she can utilize the information for their current research (Lincoln & Guba, 1985). They note that this way of looking at things puts the pressure on the researcher of the next study, not on the researcher of the current study. In this study, I have included thick, rich descriptions of the data in order that the reader is able to understand the subject, setting, and theoretical framework being used in this study. My hope is that findings from this study will be useful for making connections between Black feminist theory and technology in future research and practice. I believe this study lays a quality foundation for that future work.

Researcher Bias and Assumptions

As a Black woman living in America, I began this study with many biases concerning the experiences of Black girls. Due to the stranglehold positivism has enjoyed in the social sciences, “There has long been a tendency to view the self of the social

science observer as a potential contaminant, something to be separated out, neutralized, minimized, standardized, and controlled" (Fine, Anand, Jordan, & Sherman, 2000, p. 108). Fortunately, the tradition of Black feminist theory encourages the use of lived experiences in the collection of data as opposed to other epistemologies, which force the researcher to take a stance of false objectivity.

As Francis Carspecken (1996) points out, when choosing my research topic, my confusion about the lack of Black women in technology fields played a large role in my choice of a research topic. I am quite certain that without my history with technology I would have been drawn to something else. However, as he also points out, the way I have chosen to study this topic addresses my values as well. Another person interested in this same topic could have approached it from a more empirical perspective, letting the numbers speak for themselves. However, I am more interested in the why of the situation because it is obvious that a situation does exist.

Limitations

Theory

Although critical theory and Black feminist theory have laid a wonderful foundation for exploring and exposing oppressive situations, many times the literature is not practical in nature. Because of this, I often felt as though I was creating my research study with no clear guidelines to support me. Because I am applying a new concept, technology, to critical theory and Black feminist theory I had to frequently make connections to the theory that had never been made. I feel that, as its critics say, critical theory is not written in such a way that is useful for those it claims to benefit. Especially

because I was working with children, it was nearly impossible to truly explain my theoretical framework to them in terms they would understand.

Methods

Participant selection

One limitation of the methods used is that because of the age of the girls, it is often hard to develop conclusions based on the observations and interviews. Children by nature are often ambiguous and their views and opinions frequently change. Therefore, I found in this study that I had to search harder for the commonalities in their statements to find the truth. Because of this limitation taking the data back to the participants became crucial. Through this process I was able to work with the girls to draw conclusions they felt comfortable with and I felt were accurate.

Site selection

Although New York City is representative of urban life, New York City also is a unique setting, and can be seen as a limitation for this study. New York City has one of the largest mass transit systems in the world. As a result, children are, from a very young age able to get around and explore different parts of the city. This mobility allows them to access neighborhoods where they will see the immense diversity that exists within the city. In order to truly understand the views of Black girls living in low-income communities, I would need to include participants from a variety of locations.

Data collection

Because of my role as an employee of Jacob Riis, I was limited in my data collection techniques. Although I feel I was able to develop a high level of comfort with the girls, I knew there would always be a barrier because I am seen as an authority figure

at the Riis. In addition, my position did not allow me to observe in a manner that I would have liked to. As mentioned earlier, the majority of my observation was in a participant role. Although I feel that my fieldnotes are quite descriptive, I also feel my data would have been richer had I been able to take more notes during the observations.

Although semi-structured interviews allow the subject to move the interview in whatever direction they feel comfortable with, this technique can lead to digressions and unrelated tangents (Weiss, 1994). Because of the age of the girls, many times I had to pull the conversation back to the topic I needed to discuss for the dissertation, and away from another topic of interest to them.

One final limitation in my data collection was in the size of my focus group. Morgan (1997) states that focus groups should be limited to no more than 8 participants. In my focus groups I had up to 18 girls at one time. As can be expected, the conversation was frequently difficult to monitor. However, I felt it was more beneficial to have all of the girls together in one large group to insure consistency than to hold true to those rules.

Analysis

This study was unique in the sense that it addressed not only the individual oppressive systems of racism, sexism, and classism, but the combined effect as well. Therefore, the analysis was complex and somewhat limited. When trying to analyze both the individual and combined effects, it is hard to separate the two. Thus, in the analysis I frequently make note that although a situation may appear to be caused by a single oppressive system, it is quite plausible that the other two are causal as well.

I also felt somewhat limited by my decision to use the Brown and Gilligan (1992) Listener's Guide. Although this guide is useful in finding the true voices of young girls, the structure of it is limiting in the way it allows you to present the data. I often felt that

it was difficult to assess the intersection of race, gender, and class because the goal of the Listener's Guide is to separate the data as much as possible. The way I was able to get around this was to analyze the intersection only using the third and fourth listenings.

CHAPTER 4

REVIEW OF THE LITERATURE

Everyone has a moment in their lives when they experience or learn something that gives them a lens through which to look at the world. For some it is a class in school, for others an experience with an individual. No matter what the circumstance, the person's belief systems are altered and from that point forward they see the world in a different light. This is especially true for children. The time from birth to age eleven is one full of mysteries and surprises. Where people live, their family environment, the school they go to, and other significant people in their lives influence the lens through which they view the world and their role in it (Eccles, 1999, Jarrett, 1999).

In the development of a worldview, issues of identity become essential, and everything around you influences the identity you develop. According to Patricia Hill Collins (1998) there are three levels for a person that heavily influences the development of her identity – the macro-, meso-, and micro levels. In this chapter, I will explore the research dealing with the implications of each level on the lives of Black girls, and how each level impacts their views of technology and the penetration of Black women in technology fields.

Lack of Research

Before moving to the literature associated with this study, it must be stated up front that little academic research has been conducted with a focus on the identity development of Black girls or Black girls and technology. Thus, a limited amount of

research was found that was useful for and relevant to this dissertation. Furthermore, many of the research studies found and cited in this chapter were conducted with a largely Caucasian sample of participants. Although I was able to make connections between the findings of these studies and the experiences of Black girls, studies like mine are desperately needed.

One caution: while we know that social class and racial/ethnic inequities exist with regard to computer access and educational outcomes, studies that consider race/ethnicity, gender, and class simultaneously are few. For a true picture of gender issues with regard to computers—one that acknowledges the many differences among females, we need to know more about all of these issues. (Marks, 1992, p. 1)

To further demonstrate the point, in a search of ERIC using the keywords “Black girls” and “technology” only twelve results were found. Of those twelve results, only three were theoretically based studies with sound research methods. Under further inspection of those three studies I realized they were actually the same research project, split into three articles. So the reality of the situation was that I had only one highly relevant study. This one study, and others with similar themes are examples of the importance of looking at the unique issues that affect Black women and girls, and not always categorizing them as a subset of a larger group of women. For example, in the writing of *Sugar In The Raw*, Rebecca Carroll (1997) came to a realization that it is crucial to understand and differentiate between situations that are race, gender and class specific and those common to all living in American society. Although many times we make generalizations across these divisions, we must also be careful not to assume similarities where there are clear differences:

It is not useful for us to be ambiguous or diplomatic in these matters. What we need to understand is that Black people and the children of Black people have issues that are separate from and by no means equal to those

of white people and the children of white people. This is a simple concept. (Carroll, 1997, p. 143)

Categorization of Black Women

I was raised in an upper-middle class home with two married parents. For most people, this would be considered a wonderful life. The problem was, I was a little Black girl living a life that is usually only seen by little white girls, and I was constantly reminded of it. I remember when I was in the third or fourth grade, I was walking with some of my friends, who happened to be white, past a group of Black girls. One of the Black girls said to the other, "She thinks she's white." At the time I wanted to cry, but according to Cornel West (1993-1994) this sentiment exists in many African Americans because

the relatively high rates of exogamous marriage, the abandonment of Black institutions, and the preoccupation with Euro-American intellectual products are often perceived by the Black community as intentional efforts to escape the negative stigma of Blackness or are viewed as symptoms of self-hatred. (p. 61)

The reason the little girl's comment hurt me so much was that until then I thought I lived in a neighborhood where everyone's family was like mine, but this little girl was suddenly bringing to my attention that maybe my family, and the things I learned from my family, made me different from other Black children. However, I did not even know I was different, and I did not want to be different. The assumption these girls made about how I "should" act because I am Black is indicative of the macro level of power relations, which discusses how society views Black girls and women and behavior that has been classified as normal for this group. This concept is important to understand because in American culture "one does not choose to be a 'Black woman.' Rather one 'finds oneself' classified in this category, regardless of differences in how one got there"

(Collins, 1998, p. 227). Not only does this impact the social mobility of the group, but also the experiences of the individual. That comment, made over 20 years ago, was the beginning of my struggle between what society expected of me, and what I really was:

The category of “Black woman” makes all U.S. Black women especially visible and open to the objectification of Black women as a category. This group treatment potentially renders each individual African-American woman invisible as fully human. (Collins, 2000, p. 100)

This assignment of characteristics has been found in many studies of gender. The same way stereotypes are applied to women in general, Black women have historically been categorized in one of several ways. The most common of these categories is the perception of Black women as the mammy, “the faithful, obedient domestic servant” (Collins, 2000, p. 72). The mammy image has been perpetuated because of the historically high rate of Black women working in domestic-type service. This began as in-house work for white families as maids and nannies and has progressed to other positions that are still in the service industry. As Patricia Hill Collins (2000) explains, just because the job title has changed, it does not mean the persistence of Black women in subordinate roles has.

U.S. Black women may have migrated out of domestic service in private homes, but as their overrepresentation as nursing home assistants, day-care aides, dry-cleaning workers, and fast food employees suggests, African American women engaged in low-paid service work is far from a thing of the past. (p. 46)

This perception of Black women as mammies effects how Black women, including myself, are treated in schools, community organizations, social service programs, and other societal structures. The consistent representation of Black women as mammies has caused whites to expect certain behavior when interacting with Black women and in turn effects how we are treated.

Economic Status of Blacks in America

In order to fully appreciate the influence economics have on the people Blacks have become, we must understand and accept that, as in the white community, there are classes in the Black community. Although this concept may seem simple and obvious, the society we portray in schools is not reflective of a class-based existence:

We allow the schools to continue to use texts and teaching models that reflect an integrated, fair-minded, classless America that has never been more than a perverse fantasy for Black people, poor people, other minorities and women, and is now simply our collective, recurring dream deferred. (Cleage, 1993, p. 120)

In reality, as Salim Muwakkil, Senior Editor of In These Times states, "There is a serious class division in the Black community that we must attend to. The middle class is doing better than it ever had... At the same time, the underclass is growing and growing" (Terkel, 1992, p. 168).

This phenomenon is reflected in the latest census data, which shows that in 2001, 57.2% of Black households earned less than \$35,000 annually, and the median income for all Black households was \$29,470. This is compared to a median income of \$44,517 for White households and a nationwide median of \$42,228 (DeNavas-Walt & Cleveland, 2002). As can be seen in the table below, inequity in income over the past 20 years has not improved. In 1981, the difference in median income between White and Black households was \$16,991 whereas it was \$16,835 in 2001. Although all groups have experienced an income increase, the wide gap still remains.

Table 2. Median Income for Households

	2001	1991	1981
All households	\$ 42,228.00	\$ 38,163.00	\$ 35,478.00
White (non-Hispanic)	\$ 46,305.00	\$ 40,968.00	\$ 38,026.00
Black	\$ 29,470.00	\$ 23,837.00	\$ 21,035.00

Source: DeNavas-Walt & Cleveland, 2002

The stark differences in income can partly be explained by the low educational attainment of many African Americans which results in higher numbers of Blacks being placed in low paying jobs. Table 3 below shows percentage of degrees obtained in several different categories:

Table 3. Educational Attainment, Ages 25 and Over, March 1999

	High School graduate or more	Some college or more	Bachelor's degree or more
All	83.4%	50.1%	25.2%
Men	83.4%	51.6%	27.5%
Women	83.4%	48.6%	23.1%
White	87.7%	53.4%	27.7%
Black	77.4%	41.4%	15.5%

Source: Newburger & Curry, 1999

Of the four groups shown, Black have the lowest educational attainment at all levels, with only 15.5% of Blacks receiving a Bachelor's degree or higher. This lack of education directly affects the earnings potential of individuals. The median income for an individual with a Bachelor's degree between 1997 and 1999 was \$52,200 where it was only \$30,400 for someone with a high school diploma and \$23,400 for those without a degree at all (Cheeseman Day & Newburger, 2002). Because so many African Americans fall into the lower brackets of educational attainment they are destined to earn less and thus live in poor communities.

Table 4 reflects the number of people and families considered poor in the United

Table 4. People and Families in Poverty, 2001

	People	Families	Female-householder (no husband present)	Children under 18
All	11.7%	9.2%	26.4%	16.3%
White	7.8%	5.7%	19.0%	9.5%
Black	22.7%	20.7%	35.2%	30.2%

Source: Proctor & Dalaker, 2002

States. It is important to notice the disproportionate number of Blacks classified as poor. As can be seen, the percentage of Black people living in poverty is almost three times higher than for whites and almost twice that of the nation overall. For Black families, the gap is worse with almost four times as many Black families living in poverty compared to whites. What is significant in relation to this dissertation are the numbers concerning Black women and children and the high percentage of this population living in poverty. According to the data, over one-third of Black women, who are the head of a household with no husband present, live in poverty. One particularly concerning statistic is that 30.2% of Black children live in poverty. That means that almost one-third of all Black children are living below the poverty line. The effects on children of growing up poor in America are heart breaking.

In American society, those living in poor communities are viewed as outsiders or deviants by the rest of the country. According to Wilson (1987), “there is a heterogeneous grouping of inner-city families and individuals whose behavior contrasts sharply with that of mainstream America” (p. 7). What must first be understood are the cumulative effects on a young child growing up in a poor neighborhood. Bowles and Gintis explored these effects and discovered that the continued cycle of poverty is not solely controlled by the individual, but also by the social structure (Brunious, 1998). American society has put into place a structure that supports the continued subordination of those living in poverty. Children who are forced to grow up in poor communities “are products of a society that creates and sustains Black violence through socioeconomic conditions which typifies the inner city ghetto” (Brunious, p. 33). Michael Harrington

(1962) explains this phenomenon in his groundbreaking book, *The Other America*, when he writes

... the real explanation of why the poor are where they are is that they made the mistake of being born to the wrong parents, in the wrong section of the country, in the wrong industry, or in the wrong racial or ethnic group. Once that mistake has been made, they could have been paragons of will and morality, but most of them would never even have had a chance to get out of the other America. (p. 15)

This structure of American society, which helps to perpetuate a largely Black underclass, is unfortunately not recognized by most. Instead, developmental psychologists, the media, and government institutions have popularized a value-driven view. This view, more racially motivated, solely places responsibility for poverty on the individual (Brunius, 1999). However as Patricia Hill Collins (2000) states, “assuming that Black poverty in the United States is passed intergenerationally via the values that parents teach their children, dominant ideology suggests that Black children lack the attention and care allegedly lavished on White, middle-class children” (p. 76). Not recognizing the role of social and political institutions in an individual’s life, the person living in poverty is seen as having sole control over his/her condition. She goes on to write, “Such a view diverts attention from political and economic inequalities that increasingly characterize global capitalism. It also suggests that anyone can rise from poverty if he or she only received good values at home” (p. 76). In other words, each person is responsible for his or her own destiny. Not only does this blame the poor for being poor, but it also congratulates those living the American dream for working hard and doing what it takes to make it within a system designed for their success (Freire, 1970).

As important as who is responsible for the cycle of poverty are the real-life conditions that poor children, especially girls, live in, the effect these conditions have on

who they are and what they believe, and how our society perpetuates an image that this is expected (American Association of University Women [AAUW], 1999; Thorne, 1993; West, 1993). Many researchers have tried to portray the essence of inner-city living, but

even when the gritt facts of urban life are intellectually understood, it is impossible for an outsider to know what it feels like when siblings are murdered, abuse occurs daily, crime and violence are the norm, and messages of rejection are everywhere. (McLaughlin, Irby, & Langman, 1994, p. 5)

The few researchers who have explored Black girls living in poverty, and how their experiences effect their self-worth have found that they seem to have a high level of resilience, and higher self-esteem than their White counterparts (Ladner, 1971; Carroll, 1997).

For many poor Black Americans, the community center is their safe haven. It is a place where they can obtain what they may miss outside of the center. For children this is especially important, as many schools serving poor neighborhoods are less than adequate. The community center is many times the place where a child will go to access people who validate and congratulate their talent and feelings and make them feel good about themselves (Eccles, 1999; Larner, Zippiroli, & Behrman, 1999). Little academic research has been done on the role of community-based organizations in the lives of Black youth. One study looked at the role of community organizations in the lives of inner-city youth (McLaughlin, Irby, & Langman, 1994). The researchers found that those youth who were involved in community-based organizations reported higher self-confidence and had greater aspirations for their futures. Unfortunately, the involvement in community centers by youth drops off significantly after the age of twelve. Therefore,

it is important for a community-based organization to reinforce positive images at an early age, as they may not have the opportunity in the future.

Many community-based organizations serving Black residents have unfortunately focused on issues of race at the expense of gender issues. Many institutions in Black communities perpetuate sexism, as they feel that issues of racism are more important for their constituents. Because of the sensitivity of this topic, very few researchers have explored the influence of community organizations in the identity development of young girls. As Patricia Hill Collins (2000) writes, “Black community organizations can oppose racial oppression yet perpetuate gender oppression, can challenge class exploitation yet foster heterosexism” (p. 86). It is important to acknowledge the work done by community organizations to fight racial oppression, “but these same institutions may also be places where Black women learn to subordinate our interests as women to the allegedly greater good of the larger African-American community” (p. 86). Although my experiences as a Black girl growing up in a middle class home are different in many ways than those of children growing up in low-income communities, the fundamental influences and experiences of community and background on a young Black girl are the same. I grew up attending after-school programs in community organizations and feel they exposed me to things I would otherwise never have experienced.

Borrowing from standpoint theory, research conducted in the tradition of Black Feminist thought places importance on the views and experiences of the group in helping to better understand the challenges experienced by the individual (Olesen, 2000).

Standpoint theory argues that group location in hierarchical power relations produces shared challenges for individuals in those groups. These common challenges can foster similar angles of vision leading to a

group knowledge or standpoint that in turn can influence the group's political action. (Collins, 1998, p. 201)

In order to understand the lives of Black girls in America, you must not only understand their individual experiences, but their shared experiences as well because, "if African-American women's experiences are more different than similar, then Black feminist thought does not exist" (Collins, 1998, p. xvii). In explorations of issues pertaining to Black girls, we must look for the commonalities between their experiences to make suggestions for changes in future policies.

Becoming Black Women

How these collective experiences manifest themselves in the daily lives and future life chances of an individual Black girl is important as well as what the micro level of power relations addresses. At the micro level, researchers explore the daily lives and experiences of Black girls, which influence who they become. Understanding their daily lives is important because "the particular experiences that accrue to living as a Black woman in the United States can stimulate a distinctive consciousness concerning our own experiences and society overall" (Collins, 2000, p. 23-24). Because of the many mediums vying for the attention of girls, some Black girls end up confused about who they are and strive to fit into a culture that many times does not present positive images to replicate oneself. "Increasingly, entertainers—both women and men—send mixed signals to young Black girls about who they should aspire to become as they move toward womanhood" (Hrabowski, Maton, Greene, & Greif, 2002, p. 4). These images of what a "woman" is supposed to be do not stop with entertainers. Advertisers continuously portray an image that perpetuates stereotypes about what an attractive woman should look like. But ads sell more than products, "they 'sell' a self- and world-concept designed

to maintain and ensure the perpetuation of sexual, racial, and economic inequality, which are all necessary to the existence of a patriarchal, capitalistic economic system" (Joseph & Lewis, 1981, p. 152). With the continued growth of the Internet, this new medium is constantly under scrutiny for the images it portrays of women. In a study of identity on the Internet conducted by Lori Kendall (1998), she found that even in spaces, like chat rooms, where individuals are not able to see each other, gender was a factor in identification and relationships.

Because of the pervasiveness of images of women as sexual creatures, girls think about the kind of woman they want to be much earlier than in the past. Although for many middle class white girls, ideas of womanhood do not surface until the age of eleven or twelve, low-income Black girls begin this process as young as eight years old (Ladner, 1971). By the time they are nine and ten years old, they are trying to emulate what they have seen on television, in magazines, and in their communities. However, this becomes problematic because, "they do not yet know how to articulate [womanhood], but their behaviors are dramatic representations of it" (p. 61). The search for a sexual identity has resulted in many researchers seeing preadolescence as one of the most difficult times for all children, but especially girls. During this time children are trying to develop a success and failure model for themselves, and the decision that they come to impacts the rest of their lives (Lerner, Zipprioli, & Behrman, 1999). Carol Dweck found that how girls decide what they can and cannot succeed at is quite different than the process used by boys. In her study of girls and boys recognition of success she found:

When boys fail at a task, they tend to explain it as a lack of effort and thus often try harder. When girls fail at a task, they tend to see it as a lack of their own innate ability and thus are more likely to give up. (Linn, 1999, p. 14)

For many girls, the outcome of these attributions of success and failure is conformity to gender-stereotyped roles, which can lead to purposeful failure in school and low self-esteem (Eccles, 1999). The confusion that surrounds this time period results in many girls simply trying to fit in with the people around them. Joe Feagin and Melvin Sikes (1995) conducted a study of the experiences of middle class Blacks in America. In one of their interviews a father discusses the need of his daughter to belong at school.

She wanted to fit in more than she wanted to stand out. You see, I would look at that as a way of being different and she didn't want to be different, she wanted to be the same. (p. 88)

It is during this time of trying to "fit in" that many messages of inadequacy develop within a young girl and often the message stays with them through adulthood.

Researchers have found that when children enter middle childhood they are confident in their abilities to complete and succeed at any task; however, by the time they enter and leave pre-adolescence, their level of self-esteem has plummeted. When asked about their ability to perform academic tasks, those in the heart of pre-adolescence, "are typically far less optimistic, and there is a much stronger relation between their self-ratings and their actual performance" (Eccles, 1999, p. 35). However, as stated previously, the identity "crisis" experienced by many white girls is not as pervasive in Black girls. An example of this strength can be found in the words of Tiffany an eleven-year-old Black girl, who says,

What I'd like to say to Black girls in America is that it's okay to be who they are and to express what they want to express...I think it's silly to try to look for an experience that has made me feel different or has made me think that my struggle is harder than white people's struggle. You just gotta know who you are, and if you don't know, you can't look anywhere else but inside yourself. (Carroll, 1997, p. 135)

This is reflective of a change in attitude from aspirations to expectations. Jay MacCleod (1995) gives a good explanation of the difference between the two when he writes:

In articulating one's aspirations, an individual weighs his or her preferences more heavily; expectations are tempered by perceived capabilities and available opportunities. Aspirations are one's preferences relatively unsullied by anticipated constraints; expectations take these constraints squarely into account. (p. 61)

He found in his study of the Hallway Hangers and the Brothers that many of the Hallway Hangers had developed expectations for what they could do in the future that did not allow room for higher aspirations, while the Brothers held onto their aspirations no matter what troubles they experienced. Once a child perceives a task as too difficult or unrealistic they are unlikely to try that task again. The loss of aspirations and dreams and refocusing on expectations and perceived capability many times results in career interests conforming to gender stereotyped roles. Many times these historically female careers do not include those requiring high technical skills.

Technology and Black Women

There are many factors at play when discussing the issue of technology, some to do with access, others to do with experiences. However, I believe the combination of the two (access and experience) is what influences whether a child will develop a long-term interest in technology. This is especially important for Black women because "as a group, Black women are in an unusual position in this society, for not only are we collectively at the bottom of the occupational ladder, but our overall social status is lower than that of any other group" (hooks, 2000, p. 16). Although great strides have been made in the education and career opportunities available to Black women, exploitation of

Black women for labor still persists in American society. As one of the main focuses of Black feminist theory, the historical work experiences of Black women has been greatly explored. Even though many Black women no longer work in domestic fields, the mammy image, as discussed earlier, has stayed with Black women as a group and greatly influenced the value placed on the work of Black women. Patricia Hill Collins (2000) addresses this view when she writes,

Currently, while the mammy image becomes more muted as Black women move into better jobs, the basic economic exploitation where U.S. Black women either make less for the same work or work twice as hard for the same pay persists. U.S. Black women and African American communities pay a price for exploitation. (p. 74)

The price Black women pay is lower wages and long-term earnings. In order to change this cycle, role models must be in place to which young Black girls can look. The influence of role models on selection of career goals is great, and many girls do not have the necessary role models in historically underrepresented fields even though these role models may exist. Without role models, the perception of technology by girls is many times connected to images of a white man sitting behind a computer screen all day long.

There is a need for role models to counterbalance the perceptions and images that imply that math, science, and technology are not relevant to girls' lives. There needs to be recognition for women who actively participate in using computers, as well as mechanisms for these women to mentor and serve as role models for girls. (Marks, 1992, p. 6)

In *Sugar In the Raw* a book written for, about, and by Black girls, one eleven-year-old shows that she understands the impact of a lack of Black role models in her school.

There are no Black teachers at my school. The only Black adults are the custodians. And that does have an impact on the students, I think. It would be nice to have even one Black teacher at the school so that students, both Black and white, could see that Black people can be teachers, too and not just custodians. (Carroll, 1997, p.136)

A study conducted by the American Association of University Women (1999) found that girls pursue a much smaller subset of career options than boys do. They believed that in order for this problem to no longer be perpetuated, the attitudes of school personnel about the abilities of boys and girls must first change, in order that they do not unconsciously pass these beliefs on to the students with which they work. With respect to a change in attitude by schools, the AAUW report notes:

Differences between girls and boys, or between and among racial groups or socioeconomic categories, cannot and should not be attributed to biological differences. Girls are not inherently more talented in writing, languages, or music. Opportunities and expectations are shaped by social phenomena, notably the idea that there are two genders, with oppositional characteristics. The idea is conveyed as a social expectation, both inside and outside of school, and influences the ways that girls view themselves as well as how adults view them. Social forces shape the strengths that girls and boys develop, which are then displayed and sometimes reinforced in schools. (p. 7)

Although this study discussed the impact of schools and their responsibilities, it can be applied to any organization or individual perceived to be an influence on a child. With respect to technology, many girls simply have a lack of interest in technical fields. Whether discussing home computer access or penetration of Black women in technical fields the future for Black girls in technology does not look bright.

There are large disparities between the access opportunities and usage of technology by the rich vs. poor, ethnic majority vs. ethnic minority populations, and men and women. The 2000 report, *Falling Through the Net IV: Toward Digital Inclusion*, from the U.S. Department of Commerce shows that gains have been made in the past few years across ethnic groups in acquiring home computers. However, what the reports fail to disclose is the gap that continues to exist in the technology ownership and usage of different groups. The 1998 gaps reported in *Falling Through the Net III* (U.S.

Department of Commerce, 1999) between Whites and minority groups, with regard to computer ownership, still exist today. Between African Americans and Whites there was a 21.1 percentage point difference in 1998, where there is a 23.1-point difference in 2000. Therefore, even though all groups are increasing their technology acquisition, the differences in access rates have widened. However, these statistics only report on those who have computer, they do not show the differences in access to the Internet.

It is not enough for a family to simply own a computer. Connection to the Internet is another confounding variable. Although, as with computer ownership, Internet access rates have increased, there are significantly fewer people who have access to the Internet than computers in the home. This is not only true for the African American population, but for Whites as well. Only 46.1% of Whites have Internet access, versus 55.7% that own a computer (U.S. Department of Commerce, 2000). Like computer ownership, the gaps between Whites and minority groups regarding Internet access have not remained stable, but widened. In 1998, there was an 18.6 percentage point difference between African Americans and Whites in regard to Internet access. That difference has increased to 22.6 percentage points.

Although there are concrete differences between the access opportunities of different groups, access is not the only problem. Many girls who have access to technology still show a lack of interest in it. In 2000, the American Association of University Women developed a task force to explore the issues of gender and technology. Their goal was to shed light on some of the reasons that may explain why there is such low representation of women in technical fields. In their conversations with girls from all over the country, they found that we have progressed from a time when the reason for the

lack of girls interested in technical fields was a result of perceived lack of skill. Instead they discovered that the majority of girls feel they are capable of excelling in technical fields, but just do not want to. For many girls, this is due to the strong stereotypes held about what it means to work with computers.

Girls' descriptions of computer culture reproduce some powerful, enduring clichés about what it means to work with computers that appear out of step with recent events and developments. The clichés are about social isolation and an exclusive focus on the machine. (p. 10)

In her exploration of gender differences and technology, Roberta Furger (1998) found that girls learn insecurities in relation to technology from the behaviors of adults around them as well as a result of a lack of opportunities to interact with technology in innovative ways.

It is now apparent that there are extreme inequities in computer ownership and Internet access in the home. Yet, many people believe that creating access opportunities at schools, libraries, and other public areas will counteract these inequities. However, a look at the data on computer access in schools shows that inequities exist there as well. Coley, Cradler, and Engel (1997) found that the more students a school has belonging to a minority or low socioeconomic group, the higher the ratio of students to computers, peaking at 32 to 1. This is more than 7 times the recommended ratio implying that poor minority students lacking access to computers at home are also not given equitable access at school.

A lack of interest in technology by Black girls, stemming from low access opportunities, results in a low representation of Black women in technical fields. This low representation will directly impact the earning potential of Black women in the United States. Of the thirty jobs expected to experience the largest amount of growth

between 1996 and 2006, eleven, accounting for 3.6 million jobs, will require considerable computer knowledge. Of the 20% of new jobs requiring no computer experience none are considered high wage earning positions (Linn, 1999). It is important for Black women to understand and take advantage of technology, because these skills will be used in almost any job they choose (Margolis & Fisher, 2002).

Understanding the need for a substantial increase in participation of Black women in careers that utilize computers but may not be considered “technical fields” is essential. The table below shows the disproportionate distribution of technology degrees in the

Table 5. Engineering and Computer Science Degrees

	Census	Engineering 1998			Computer Science 1998		
	2000	Bachelors	Masters	Doctorates	Bachelors	Masters	Doctorates
All							
White	71.9%	72.1%	71.2%	71.3%	66.9%	61.0%	73.7%
Black	12.8%	5.4%	4.2%	2.8%	10.4%	5.8%	2.5%
All Men	49.1%	81.0%	79.8%	85.0%	73.4%	70.9%	77.8%
White Men	33.8%	59.8%	58.1%	61.2%	52.1%	46.6%	58.6%
Black Men	5.9%	3.5%	2.8%	2.0%	5.3%	3.5%	1.1%
All Women	50.9%	19.0%	20.2%	14.8%	26.6%	29.1%	22.0%
White Women	35.3%	12.3%	13.1%	10.0%	14.8%	14.3%	15.1%
Black Women	6.5%	1.9%	1.4%	0.7%	5.0%	2.3%	1.4%

Sources: Hill, 2001; U.S. Census Bureau, 2001

United States. As can be seen from the data, at no degree level are people of different races and genders equally represented in degree attainment. In fact, the distributions are not even close. The least represented group is Black women who are 6.5% of the population, but only .7% of awarded doctoral degrees in engineering. In their study of the persistence of women in computer science, Jane Margolis and Alan Fisher (2002) were careful to point out the crisis that Black people face regarding technology when they wrote:

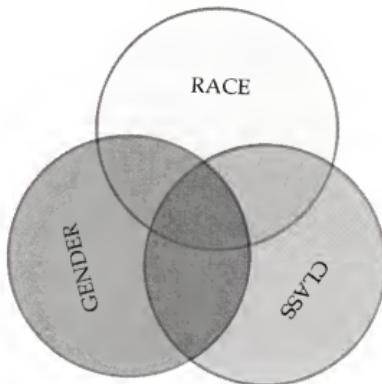
The shortage of people of color in the computing profession is even direr than the shortage of women. All of the reasons we have cited for increasing the participation of women in computing are at least as compelling in the case of ethnic minorities. (p. 10)

Many programs have been put in place to try to close these gaps, but huge disparities still exist. As Huang, Taddese, & Walter (2000) of the U.S. Department of Education state, “To fully understand the gender and racial/ethnic gaps in science and engineering education and the resulting science and engineering workforce requires examining school from kindergarten through college” (p. 2). The University of Maryland, Baltimore County, created just such a program. In response to a low retention rate in engineering fields, the Meyerhoff Scholars Program was created to mentor and support African American women pursuing engineering degrees. In their study of what led to these women deciding to pursue traditionally underrepresented fields they found that the largest influence in the lives and decisions of the women was their families and communities (Hrabowski et al., 2002).

Although the research that has been done concerning Black girls and women and technology has been quite useful in understanding the problem, the majority thus far has quantitative in nature. Quantitative data are useful in answering questions of what, however in order to answer the why questions qualitative data is essential. This is especially true for research conducted in the tradition of Black feminist theory, which relies on dialogue. This epistemology believes that new knowledge is developed through constant dialogue and agreement, not on stated facts by those in power. This is because those in power are not usually Black women. In order to speak for Black women you must first speak to Black women. Hence, this dissertation showcases the voices of young Black girls and my dialogue with them over the past two years.

CHAPTER 5 ANALYSIS OF FINDINGS

The lives of the eight girls I worked with for the past two years are affected by the intersection of three factors: racism, sexism, and classism. The effects of these can be felt in the stories they tell, the way in which they talk about themselves, and most importantly, how they talk about race, gender, and class. Although it is important to understand how each separate form of oppression affects individuals, for black women it is the experience of living with all three that makes them unique. “Race, class, gender, and other markers of power intersect to produce social institutions that, in turn, construct groups that become defined by these characteristics. Since some groups define and rule others, groups are hierarchically related to one another” (Collins, 1998, p. 204). In the figure below the intersection of oppression that impacts black women is shown. For this



Intersections of Oppression

study, I have chosen to use this matrix in the analysis of my data because I decided the best way to explain the influence of the matrix of domination is to first discuss the individual impacts of each circle, or factor of oppression, and then tackle the ways in which the intersection of all three influences Black women. "Whereas race-only or gender-only perspectives classify African-American women as a subgroup of either African-Americans or women," Patricia Hill Collins (1998) writes, " intersections of race, class, and gender, among others, create more fluid and malleable boundaries around the category 'African-American women'" (p. 205). It must be noted that a large portion of the impact on a person's life of any form of domination lies in the overlap of categories. Thus, although I have done my best to isolate issues that are solely the result of racism, sexism, or classism, it is nearly impossible to do this because the sum of all three is greater than the parts.

In this chapter I will present the findings from two years of data collection at Jacob Riis Neighborhood Settlement House. I will first discuss how each the effects of each factor (race, gender, and class) can be seen to separately affect the girls and then discuss their combined impact. Within each discussion I will carry out my analysis from the perspective of the four levels of listening (Brown and Gilligan, 1992), as previously discussed. As modeled in the Brown and Gilligan book, I will combine the third and fourth listenings in [into?] my analysis. This is being done because when discussing relationships, many times silenced voices become apparent. As Brown and Gilligan state:

As resisting listeners, therefore, we make an effort to distinguish when relationships are narrowed and distorted by gender stereotypes or used as opportunities for distancing, abuse, subordination, invalidation, or other forms of psychological violation, physical violence, and oppression, and

when relationships are healthy, joyous, encouraging, freeing, and empowering. (p. 29)

I first performed each of these listenings for class, gender, and race. This allowed me to isolate domination or resistance that was a result of a specific form of oppression like class, gender, or race. Next, I chose those instances in which the answers appeared to be a result of the intersection of class, gender, and race and analyzed these solely with the third and fourth listenings to synthesize the findings.

The majority of the data presented in this chapter were collected from eight-, nine- and ten-year-old girls participating in the after-school program at Jacob Riis, as well as from observations made as I worked within the organization. In addition to those of the eight girls who participated in this study, the words of nine other nine- and ten-year-old girls that participated in the focus group with my interviewees are included. Anytime these girls' voices are heard in this chapter, I have explicitly noted that they did not participate in the interviews. Although I understand that the choice to include girls that were not a part of all methodologies reduces the internal validity of my research, I felt the comments I included from these girls were most representative of the views being expressed by the entire group. These girls took part in a 10-week discussion group with the research participants and myself. In this group we discussed a variety of subjects relating to their lives as Black girls and their views of technology.

Class: Growing up in “The Projects”

First Listening: Understanding Queensbridge

Many of the girls who participated in this project look at the violence and drug activity in their neighborhood as normal and somewhat of an inconvenience as opposed

to a detriment to them. In telling the story of and describing their neighborhood, it became apparent that they feel despite all of the problems in Queensbridge, the neighborhood is still a great place to live. The girls see their neighborhood as a safe haven for themselves and their friends and many times expressed that they would never want to live anywhere else. The girls in my group see Queensbridge no differently than a child growing up in the suburbs would see her neighborhood. When telling stories about their neighborhood, you can see that the girls view Queensbridge merely as the place where their family and friends are. At one point, Lisa explained why she liked living in Queensbridge.

Lisa: Well, I describe Queensbridge as nice because you find new friends. The way that my mother describes it to me is when you look at the buildings its not about the people it about the nature and things around you. And when you... Like when the sun sets you can see the buildings look golden, so in the mist of it there's good things about it. ... I meet new friends and I learn their families and learn their difficulties and their culture and things. And I also like how there's many things to do. And that's it.

Lisa begins her description with a positive, "I describe Queensbridge as nice..." She comes across as someone who truly loves the neighborhood she lives in. When she describes the sunset, it is clear that she has the ability to find beauty in everything around her. Her words also show that she is well aware of the dangers in Queensbridge, but when she states, "The way my mother describes it to me..." it is clear her mother has encouraged her to focus on the positive instead of the negative.

Similarly, Chattara revealed that she is acutely aware of the community she lives in, but also understands that there are people there to protect her and, thus, is not afraid.

Chattara: Queensbridge, it's a nice place. Even with the guns, and people be shooting. It still be safe because probably nobody... Drug dealers... Police... Now they stay around more. They gettin'

more drug dealers out because last month they had like twenty drug dealers in the police office, and some of them still in jail. Some had came out.

Chattara also begins her description with a positive: "Queensbridge, it's a nice place."

She talks about the recent drug sweeps being made by the police through the community, "They gettin' more drug dealers out because last month they had like twenty drug dealers in the police office, and some of them still in jail." This, she feels, is a sign that there is work being done to make the community a safer place for her and her friends.

The girls also shared stories about what they do not like about the community, such as the shootouts, littering, noise, and violence. Katie told a story about a basketball game on her block that turned violent. She explained that when the game was over, the losing team got angry and began shooting. She stated that incidents like this are examples of some of the things that she does not like about her neighborhood.

Katie: I don't like when... Cause people when they get mad, like my block was playing this block in basketball and they lost and they got mad and started shooting.

So that's something you don't like?

Katie: When they shoot.

Katie hesitated in the telling of her story. She began by saying, "I don't like when..." Then she pauses as she searches for the right words to explain what she is trying to say. She finally finds a story that she can use as an example, which is of a basketball game on her block. She finally says at the end of her story that something she does not like about her neighborhood is, "When they shoot."

Although Chattara loves her neighborhood, she is also aware of the problems of her community. She talks about the disrespect some people seem to have for community property.

Chattara: People just stick gum on the floor. Everything, in the hallway there's writing in the building, graffiti, a lot of stuff. They be breaking intercoms, the papers. They break that. ... Cause, they're wild, and you gotta look in their family. Cause maybe they didn't get treated well or something.

She describes very explicitly the problems she sees, "People just stick gum on the floor ... There's writing in the building ... They be breaking intercoms." However, she does not blame the community, she focuses on each individual's background, "Cause maybe they didn't get treated well or something." This shows that she believes there must be a good reason for them to act in this manner.

Interpretation. It is important to recognize and make known the good they see in their community and not look at this perspective as useless or irrelevant to the issue of the stress that comes with living in poverty. Fine, Weis, Weseen, and Wong (2000) caution researchers to avoid leaving out these viewpoints because they also represent the lives of subjects:

These mundane rituals of daily living—obviously made much more difficult in the presence of poverty and discrimination, but mundane nonetheless—are typically left out of ethnographic descriptions of life in poverty. They don't make very good reading, and yet they are the stuff of daily life. We recognize how careful we need to be so that we do not construct life narratives spiked only with hot spots (p. 118).

Instead they encourage writers to include all aspects of the lives of those who are poor, to show the complexity of their situations. In some of the stories presented above, the girls discussed the problems of the community, but showed their resiliency and ability to adapt to these situations, and explained that the problems do not define their community.

It is widely accepted that the environment in which a child grows up greatly affects that child's beliefs and later achievement. One can not help but be affected by the community around one, and frequently the consequences of poverty are worse for girls

than for boys (American Association of University Women, 1999). For some girls it is demonstrated in school that “at times, the crushing effects of poverty have more to do with test score results than do factors of gender, race, and ethnicity” (Vasquez and de las Fuentes, 1999, p. 152). For others poverty shows up in more subtle ways such as shyness.

However, even with the problems they have encountered, the girls in my study still love living there, and would not want to live anywhere else.

Rachel: I want to live here when I grow up. Because it's just like... I like Queensbridge a lot, and I'm scared to go to other places. I don't know. I'm just so used to being in Queensbridge. Cause I was born in Queensbridge, and I never really go down south or never really leave Queensbridge.

Do you want to see other places?

Rachel: Yes. I just don't wanna live there.

As Rachel states, “I never really go down south or never really leave Queensbridge.” Her lack of exposure to other communities has left her fearful of what she may encounter if she leaves Queensbridge. In their minds, and their words, the girls have the same things that other children have, and, as with other children of the same age, the most important things in their lives are friends, family, and fun.

Second Listening: The Effects of Class on Self

In the second listening, the interviewer looks out for the presence of “I” in the interview. How does the interviewee describe herself or see herself in the context of the issue being discussed? What others would find if they were to spend time in Queensbridge with the girls is quite the opposite of despair and hopelessness, but instead girls full of hope and dreams for the future that are no different than those of a privileged

child growing up in the suburbs. Although data from all of the girls were analyzed for mention of the word "I," only the most illuminative have been chosen for this analysis.

Latisha, a ten year old who showed great confidence in her interview, is a good example of the confidence displayed by most of the girls. When looking at the use of "I" in her interview as it relates to class, I focused on her career aspirations, and analyzed how she spoke of herself in terms of her future career. As you can see below, Latisha has many dreams for the future, and when she mentions each one, she prefaces it with "I want to..."

I want to be a teacher. I want to be different things like I can't really pick. I want to be a teacher. I want to be a dance instructor. I want to be a judge. I want to be a lawyer.

By speaking this way, she emphasizes that each career option is something she has chosen for herself. She frequently talks about why she has chosen these careers by, once again, focusing on herself and not on what others have told her:

When I went on the trip with my group. I liked how the judges get to do things. ... I like that they help some people sometimes. Like, if I'm a dance instructor, like my dance instructor... I want to help people learn.

As can be seen in the transcript above, this young girl sees herself as having the ability to be anything she wants to be and is considering a wide range of options. She seems to have thought about each option and has a specific reason why she is interested in that career. Each is related to an experience that she has had herself, not something someone else has told her about the career.

There was not a single girl who felt her career options were limited because of external factors. In fact, they all were extremely adamant about being able to do whatever they want to do when they grow up, and being completely in control of what happens to them. Three girls, Rachel, Latisha, and Sheila spoke very strongly about why

they feel they can be anything they want to be. Often when asked why they believe they can pursue any career, children repeat what others have told them; but these girls have truly internalized the view that they are the ones in control of their fate and speak of their own views, not the views of others.

Rachel: Because I have my own mind, and nobody can make me do things. I don't believe what other people say because it might not be true.

Latisha: Because I'm myself, nobody can make me do what I don't wanna do. When I get older if I don't wanna have a job I don't have to have a job. If I wanna be a bum on the street I can do that.

Sheila: Because it's my opinion. It's my life. And when I grow up I want to be anything I want to be.

Interpretation: As seen above, the girls have clearly accepted what American society has taught them, and believe they can be anything they want to be. These three girls are good examples of the modes of thought that exist within the entire group interviewed, and their views are quite similar to what Jay MacCleod (1995) found in his interactions with The Brothers, a group of teenage Black boys. Despite the circumstances and situations they found themselves in, the Brothers never lost faith that they could do anything they set their minds to.

With regards to class, the role of the self took on importance when they discussed their future aspirations. Unfortunately, the drugs and violence associated with poor communities gives rise to the perception that living in such circumstances leaves people without hope for the future (McLaughlin, Irby, & Langman, 1994). Many Americans cannot conceive of being able to function in such an environment and, because they have not experienced these communities for themselves, base their views on what they read in newspapers or see on television. Queensbridge, like many other poor neighborhoods, is

isolated from the upwardly mobile sections of Long Island City that surround it. Unless you are deliberately coming to Queensbridge, you are unlikely to enter the housing project because there is nothing there other than the people who live there. The services available to the community fall far below standards elsewhere, with grocery stores selling overpriced, low quality goods, and Chinese drop-ins selling cheap, greasy food.

Therefore, what would bring a person to this community to make judgments about the people living there that are based on something other than television news reports?

Nothing.

Third and Fourth Listenings: What They Aren't Saying

Many times, the views that are thrust upon young people can result in them feeling as though they do not have a voice, and they may justify the views that others hold of them, rather than challenging those views. In my interviews with the girls, it was quite clear that they understood how society sees their neighborhood, but in many instances they have resisted these views and developed their own. When asked about what they think those who are not from Queensbridge think of the community, their answers were quite similar to the way their community is portrayed in the media. Rachel talked about what is and is not true about the opinions of outsiders.

They might think that it's a bad place for children to grow up. Cause there's a lot of violence and gangs.

So would they be true?

No. In a way yeah, in a way no. There's a lot of gangs over here. If your child is outside everyday, then your child can get hurt. But if your child goes outside every other day. If you let her go out Monday and you don't let her go out late or anything, then your child's not in danger.

Rachel understands and agrees with some of what people say about the community. She says, "There's a lot of gangs over here." However, she feels the need to explain why

those problems do not make her neighborhood a dangerous place: "But if your child goes out every other day... Then your child's not in danger." She recognizes that if a person is cautious and aware of her surroundings then she will not encounter any problems.

Lisa answered the same question from a different perspective. She immediately tried to give an answer that would take into account where someone was from as well as his or her current living situation:

Well, if they lived in a house or if they lived somewhere else that wasn't like Queensbridge, I don't think they would have a good way of looking at Queensbridge. Well maybe they would. Cause maybe they probably didn't have a house or something. So they would have a nice way of seeing it sometimes. And maybe they might like it the way I do. Maybe they'll see it the way other people do.

She starts out by discussing people who may live in neighborhoods that are more affluent than Queensbridge, "Well, if they lived in a house..." She believes that these people would not think highly of Queensbridge. She then switches to those who may be less fortunate than people in Queensbridge. She states, "Cause maybe they probably didn't have a house or something." These people, she believes, would see Queensbridge as a nice place to live, "And maybe they might like it the way I do."

Interpretation. As a result of the American public's lack of personal exposure to inner city life, and because most Americans get their information from the mass media, "many Americans of all ethnic and economic groups have concluded that little can be done to alter the bleak future of inner-city adolescents" (McLaughlin, Irby, & Langman, 1994, p. 1). What is unfortunate is that because they do not know any different, people educated by television and other media allow their views to shape how they interact with young people. This view of inner-city life by mainstream society affects the way those living in these communities feel about themselves. In her study of inner-city children in

Chicago, Loretta J. Brunious (1998) asked herself the same types of questions in regard to the children with which she was working.

To what extent does society function on preconceived ideas about black, disadvantaged children? Can we distinguish between our realities and ways of seeing and theirs? Is it possible to understand and accept that what is 'real' to one is not necessarily so to another? (p. 3)

These girls are simply products of their environment and instead of showing anger and resentment toward those who judge them, they try to show understanding of where these outside views may come from. However, it was clear that they do not speak in a way that challenges these views. Although they offer alternative viewpoints, they first validate the views of others. This need to validate is a result of the environment in which they are raised. If children are not taught that it is acceptable for them to challenge the views others hold of them, they instead internalize the views of others (Ward, 2000). This lack of education on speaking out cannot be blamed on the parents who are also products of American society and have taught them that there is something wrong with the way in which they choose to live their lives. Internalization of society's views of these girls becomes even more apparent in discussions of gender.

Gender: Understandings of Womanhood

First Listening: Expressions of Gender

In an early focus group the girls discussed the difference between a "good girl" and a "bad girl." Their answers revealed many stereotypes they have adopted as truths about girls. One especially telling story that exemplifies their views of girls and women is about a fifteen- year-old girl who is now pregnant. Gloria, a girl in the focus group who

was not interviewed, began the story by telling the group that the girl has had a baby before and is now pregnant again:

This girl, she's like 15 years old and she's had a baby before. And now it's going to be hard for the boy... It's going to be hard for the boy because now the boy probably gonna have to get a job so he can help his family. And the girl, she just went out, did what she wanted to do, and she had a baby. And that's like kinda being bad. ... Of course it's going to be hard for her, 'cause what if they break up. The boy's gonna be like, "you take the baby. I don't want the baby." So they just probably gonna give it to the girl.

In this story, the focus is always on the girl. Gloria talks about how it is her fault and the problems that are going to occur because of the bad decisions she has made. Statements like, "And the girl, she just went out, did what she wanted to do, and she had a baby. And that's like kinda being bad." She then discussed that it is also going to be a hard situation for the girl, because it could possibly become her sole responsibility if the boy decides that he does not want to be involved. She also mentions the boy several times throughout the telling of the story. "It's going to be hard for the boy... It's going to be hard for the boy because now the boy probably gonna have to get a job... the boy's gonna be like, 'you take the baby. I don't want the baby.'"

Another girl in the focus group who was not interviewed, Amy, then jumped in and stated that she felt it was going to be a hard situation for both the girl and the boy because they both are going to have to get jobs.

I think it's going to be hard for the girl and the boy because the boy's probably gonna have to get a job and so does the girl. And the girl, it's going to be hard for her because she gonna have to be waking up in the middle of the night, ain't gonna be having to get the proper sleep because the baby's crying and it's her fault cause she shouldn't of been doing what she was doing at that time, she should have been waiting.

In her telling, although she recognizes that this situation will affect both boy and girl, she still places the blame for the situation on the girl, not the boy. She states very clearly whose fault the situation is. "It's her fault." She felt, like Gloria, that the situation was mostly the fault of the girl "cause she shouldn't of been doing what she was doing at that time, she should have been waiting."

Interpretation. Where these views originate from is the society they live in, which tells them there are specific ways girls should behave. "Gender roles are based on societal evaluations of behaviors as either masculine or feminine; these gender expectations vary from one society to another" (Basow & Rubin, 1999, p. 26). Girls are simply a product of the society around them, which tells them they should act in certain ways from a very early age. Joyce Ladner (1971) found this to be true in her early study of Black girls' identity development. She wrote:

The anticipatory socialization of young girls into the various facets of the womanly role is one indication of the high prevalence of this norm. Girls are bought dolls, play make-up, toy washing machines, baby carriages, high-heeled shoes and stockings for these anticipatory socialization roles. (p. 110)

The constant mention of the boy in this story is also indicative of the understanding these girls have of society's view that a baby is a girl's responsibility and that the boy has the option of whether or not he wants to be involved, which is true in both White and Black populations (Gilligan, 1993).

The girls I worked with understood that girls are expected to behave in specific ways, and even sang a song depicting the differences between boys and girls.

Boys go to Jupiter to get more stupider
Girls go to college to get more knowledge
Girls drink Pepsi to get more sexy
Boys drink beer to get more hair

The girls in my group have clearly been socialized to believe that girls should act one way, and boys should act another. Although they may seem to be at a young age for opinions so strongly attached to gender, Black girls become socialized into womanhood at a very young age, as early as five years old because of the pressure put on Black girls to grow up much faster (Joseph & Lewis, 1981).

My fieldnotes after this discussion reflect the mixed messages these girls are struggling with concerning who they are supposed to be and how they are supposed to act.

Today's group was very interesting. The topic of the discussion was "girls". We talked about the good and bad things about being a girl. It was quite interesting that many of the girls associated things dealing with men (single parent, hurt by boys) as the bad things about being a girl.

We then moved the discussion to the difference between good and bad girls (if there is such a thing). The majority of the group (all but three) felt that there is such a thing as a good girl or a bad girl. Bad girls are those who don't listen and end up pregnant. One of the girls told the story of a 15-year-old girl who is now pregnant. What was interesting about this story was that she seemingly placed the blame and responsibility on the girl not the boy. When probed further she said it is going to mess up the girl's life as well but I think it is interesting that even at this young age the perception of responsibility for birth control is on the girl. (Fieldnotes, 5/9/02)

The girls in this study clearly have accepted societies pre-defined roles for women and see no problem with these roles. They have been taught that girls are supposed to act in a certain way, and will be looked upon badly if they stray too far from this role.

Second Listening: What Kind of Woman Am I?

In another activity, I asked the girls to fill out a worksheet about what kind of woman they want to be when they are adults. Their answers although in many ways uplifting, show that their views of what it means to be a woman are couched in

motherhood and marriage, not in careers and independence. When asked on the worksheet to respond to the statement, “When I grow up I want to be this kind of woman,” many of the girls gave answers similar to the three shown below:

I want to be a mother when I grow up. I want to have a kids a boy and a girl. I want a man who is strong special and cute. I want him to get along with me. I want a big house.

When I grow up I want to be a successful woman. I want to finish school. I want to have a children. I want a husband that I could get along with. I don't want to be divorced. I want to have a happy life.

When I grow up I want to be a sucessful woman with 2 children and handsom don't like to cheat man.

As can be seen from their answers, they speak of themselves in the future as the “every woman” who not only has a successful career, but also has a successful family. This is historically representative of the role Black women have played, dating back to African societies where they were expected to be able to work and take care of the family (Collins, 2000; Lerner, 1972).

When reconciling this view of womanhood with how they see themselves as women using technology, discussions of proficiency with computers surfaced. In these discussions, their acceptance of gender roles became more apparent. They discussed their lack of interest in technology fields, which comes partly from a perception of what is hard and a lack of interest in areas that may be hard for them. The girls in my study participate in a weekly Lego Robotics class at the Riis. Many of the girls expressed satisfaction with the Robotics classes. Unfortunately, the fun they are having in the computer classes has not translated into a high level of confidence with technology or an interest in the computer field, and only one of the girls interviewed, Rachel, expressed

confidence in herself when we talked about being “good at computers.” The majority of the girls’ perceptions of their computer skills ranged from not good at all, to being “a little bit” good at computers. For example, Chattara and Rachel talked about why they would not be interested in becoming computer engineers.

Chattara: ‘Cause I don’t like working with computers. I don’t like typing. ... I don’t like. ... I like handling stuff. I don’t like typing and stuff like that. ... It don’t fit for me. Cause I’m not the kind of person that works with computers.

Rachel: Cause like, I’ve seen the inside of a computer ... I wouldn’t want nothing to happen while somebody’s using a computer and I mess it up.

Rachel and Chattara do not see computers as having any connection to the kinds of things they are interested in doing.

Interpretation. The opinions about girls and women presented here are reflective of society’s views of what is appropriate behavior. American society has an established norm for what women are supposed to be. As Joyce Ladner (1971) points out those who do not accept these norms risk becoming outcasts in their group.

In every racial, ethnic, social class, and religious group in American society, a standard norm prevails: Members of each sex are strongly encouraged and expected to adopt specific traits and patterns of behavior that are characteristic of their particular sex. Failure to comply with these norms at the appropriate age frequently causes the individual to be classified as marginal, homosexual or maladjusted, and can be the source of much discontent and embarrassment. (p. 110)

It is extremely hard for young girls to develop an alternative view of womanhood unless the people and places around them counter the prevailing norms. Unfortunately, for many girls, including the ones in my study, these alternatives are not being presented to them. This is indicative of the traditional role that Black women have played throughout history. Patricia Hill Collins (2000) points out that Black women have always had to

balance a career with commitments to family when she writes, "Prior to U.S. enslavement and African colonization, women in African societies apparently combined work and family without seeing much conflict between the two" (p. 49). When these girls talk about themselves as women, they show that they understand the necessity of a career, but that it will never overshadow the need they feel for a husband and family.

Often, views associated with womanhood restrict what girls see as possibilities for themselves and cause them to not pursue certain opportunities, often in fields related to math, science, and technology. Because of the strength of socialization of roles, equal access to opportunities in math, science, and technology frequently do not work to counter this socialization.

Even when boys and girls receive "equal" treatment in career preparation, counseling, and programs, the absence of a conscious effort to challenge their learned beliefs about possible occupations for their gender leads to inequitable distributions in occupational fields (American Association of University Women, 1999, p. 110).

Third and Fourth Listenings: Women and Technology

In their comments about the possibility of becoming a computer engineer in the future, many of the girls expressed doubts about their ability to do the job, but upon further probing changed their answers to reflect a lack of interest, not skill. Deciding which answer is the honest one is hard. One girl, Katie, is a good example of this change. She starts out with one answer in response to possible interest in becoming a computer engineer, but by the end of the conversation she has a different one.

Nope. ... Because, it's hard work. ... Computers, and printers, and all that other stuff. ... It's not that hard, but I don't want to do it. ... Yes. I think I can do it, but I don't want to do it.

As can be seen above, Katie's initial response is a definite no, but as she goes on she completely changes her answer, so that by the end she has decided that she could be a computer engineer if she wanted to, but she does not have an interest in it. This change reflects a lack of confidence in technology, which partly comes from poor experiences with technology, but I also found that these deficiencies are the result of gender stereotypes that many of the girls have accepted regarding what women are supposed to do.

The majority of the girls were not surprised about the low number of women who are computer engineers. Their understanding of the reasons for such low numbers are in line with research that states that, "getting girls involved with computing will require overcoming resistance based on their negative feelings about getting involved with the machine "for itself" (American Association of University Women, 2000, p. 10). They feel that technology is just not something that girls are interested in doing. One girl, Rachel, felt that girls are just interested in doing other things. She was only "a little bit" surprised that there were so few women that are computer engineers.

Because I don't think that girls would want to do more of those things. I think they would want to do more interesting things. Not trying to say it's not interesting, but they probably want to be more outgoing. They might not think it's interesting, or they just don't want to be it. They might want to do more stuff that's interesting, or they just not into computers.

In Rachel's explanation for why girls are not computer engineers, she gives several concrete reasons. She states several times that girls would want to do things that are more "interesting." She says, "I think they would want to do more interesting things... they might not think it's interesting... They might want to do more stuff that's

interesting." She clearly does not feel that the computing field is something that would hold the interest of girls.

Unfortunately, although the staff understands the importance of working with girls to get them interested in math and science careers, many of the girls do not see equal representation as important, reflecting a lack understanding of sexism as a form of domination. Even though all of the girls have participated in a program sponsored by Girl's Inc, an organization working to educate young girls and women about gender bias, they did not make a connection between what they learned in those workshops and the need for equal representation in any field. Instead, they operate under the assumption that people pick careers solely based on their own interests, not because of what someone tells them they should or should not do. Their answers in response to questions concerning whether there is a need for equal representation of women in computer engineering were:

Chattara: No. 'Cause it's your life. They don't have to do what anybody else want them to do. They'll choose whatever they want to do.

Sheila: Equal number. No. 'Cause there could be more girls working with computers and less boys. Or more boys than girls.

These two girls believe that people choose what they want to be and if there is not equal representation now, it must be because people are doing other things they find interesting.

To further explore this issue, the girls discussed this in one of the focus groups. All of the girls in the group said they like computers; however, none of them want to be computer programmers. The disconnect between these two statements left me wondering where the connection was lost. The girls first filled out a survey, as mentioned earlier, to gain a better understanding of their views of who is good at computers. Many of the

questions on the survey related to gender. As can be seen below, the girls do not have an understanding of the gender bias that exists in technical fields. What is shown is that the girls believe there are no differences between boys' and girls' exposure to

Statement	True	False
Girls and boys are treated the same when it comes to learning about computers	8	5
Girls and boys are given the same information about jobs with computers.	7	6

technology. At first, it appeared they were only answering in this way because they were trying to give the “correct” answer on the survey. However, in individual interviews, the girls expressed that they truly believe there is no difference between girls and boys when it comes to computers, and if anything they feel that girls are better at computers than boys, and enjoy “computer work” more.

Interpretation. During one of the focus groups a short survey was given to the girls as a discussion starter. When I reviewed their answers it became apparent that the majority did not see the importance of equal gender representation in computer fields. One question asked whether was important equal representation of girls and boys in computer programming was important. Nine of the thirteen girls responded that it was not.

Given the lack of confidence in their technology skills, it is not surprising that none of the girls wants to work in computing. Because of their poor understanding of what it means to work with computers, I used the job of computer engineer in my questions. I did this because of the astoundingly low number of black women who are computer engineers. In their study of girls and computing, the American Association of University Women (2000) found that most girls felt they were capable of working with

computers, but had no interest in it. What I found was a combination of the two factors. Girls have not been endowed with the ability to resist societal norms that state that women do not become computer engineers.

In addition, it is clear from the comments above that they do not have an understanding of the effect sexism has on who enters or does not enter a given field. Attitudes like these being passed from one generation to the next are what keep sexist ideologies in place.

As with other forms of group oppression, sexism is perpetuated by institutional and social structures; by the individuals who dominate, exploit, or oppress; and by the victims themselves who are socialized to behave in ways that make them act in complicity with the status quo. (hooks, 2000, p. 43)

What the girls are not saying, but can be inferred from their words, is that they have accepted the stereotype of the computer engineer as a white man who sits alone in front of a computer all day. Because they are not exposed to anyone that breaks these stereotypes, they have taken it as truth and thus developed a dislike for technology.

Because of these beliefs it is even more important for Jacob Riis to make a conscious effort to educate the girls on these issues. “Addressing racism and sexism in an open and forthright manner is essential for building psychological health in African American children” (Ward, 2000, p. 58). Possible ideas for curricula will be discussed in the next chapter.

Race Black Is, Black Ain’t

First Listening: Are There Differences?

Many of the data presented on gender apply equally to issues of race because the discussions were specifically about Black women. However, I felt it was also important

to try to highlight instances when race was the more powerful factor than gender. One week, in a discussion with the focus group, the girls began to speak in what has been characterized as a stereotypical “White girl” voice (Feagin & Sikes, 1995; Terkel, 1992). The next week they gave reasons for why they spoke in that way and characterized it as speaking like a “White girl.” This began a discussion about what they perceived as the differences between White girls and Black girls. The first girl that spoke, Lisa, was quick to try to make a connection between the animosity between Black and White people, and the history of Black people in America.

I don't think there is a difference, and I think that some Black people are taking it up in their head because history is mostly about Black people in slavery and stuff, but they don't hardly think about their culture, and they use those kind of things, like slavery and stuff, against White people, but it's not always their fault, and some of it, it is their fault, but not all of it. And not all people are cruel and bad like that, and now most of the time it's Black people criticizing White people.

She expresses the view that the prejudice was really more against White people than Black people, when she said, “And not all people are cruel and bad like that, and now most of the time it's Black people criticizing White people.” She also reveals that she feels that Black people are more prejudiced than White people. Gloria, one of the girls in the focus group who was not interviewed, followed this up by pointing out that she thought the difference between Black and White girls is that Black girls are shallow and judge people on what kind of clothes they wear and how they look, unlike White girls who allow each other to express their own sense of style:

The difference between White girls and Black girls. Like it's not basically a difference, it's just that Black girls they... They like gossiping all the time. And they be talking like they so popular, “I got more clothes than you.” And they judge people on how they look and stuff, and white girls they just like, Kelly, and they got their different styles.

Gloria gives examples that show that she believes many of the stereotypes about Black girls such as gossiping and being judgmental. She feels that this is the real difference between White and Black people.

Amy, a third girl in the focus group who was not interviewed, agreed with Gloria, but expressed the opinion that prejudice goes both ways:

I think there is a difference between Black and White, and I'm agreeing with her when she was talking about flavor and stuff because sometimes Blacks think they're overruled by white people because of slavery and stuff like that. When they were getting beaten by White people, and sometimes White people... And I'm not trying to be like racist, White people be thinking they better than Black people, and Black people be thinking they better than White people.

When she makes the statement, "And I'm not trying to be like racist..." she shows a clear lack of understanding about what racism truly is, and the connection of racism to power. Like many Americans she is reluctant to make statements about races, even if she is criticizing her own.

Interpretation. The girl's answers speak clearly to the intersection of race and gender. In their discussions they show an understanding of the many similarities between White and Black girls, but at the same time, they see many differences. However, the differences that were pointed out are all based on stereotypes of Black and White people and not on anything factual.

Race is a powerful agent in American society and the issues associated with it must be explored. The impact of race on the lives of African Americans is complex and difficult to pinpoint. Many scholars have accepted that race is a socially constructed concept; however, "Race, like gender, is 'real' in the sense that it has real, though changing, effects in the world and real, tangible, and complex impact on individuals"

sense of self, experiences, and life chances" (Frankenberg, 1993, p. 11). The lives of these girls are greatly affected by race, and it impacts who these girls are and who they believe Black people are because "race in a racist society bears profound consequences for daily life, identity, and social movements and for the ways in which most groups 'other'" (Fine, Weis, Weseen, & Wong, 2000, p. 112).

Second Listening: What Are Black People Like?

Except for this discussion about White and Black girls presented above, I never directly asked the girls their views of black people. I felt that it would not be appropriate, given their age, to question their understandings of race as it pertains to themselves and how they see themselves. However, what I did notice was that for many, their views of black people came out in questions concerning black people in technical fields. This will be discussed in the next section.

Third and Fourth Listenings: Black People Don't Do Computers

The girls' answers to questions about why there are so few black people that work as computer engineers showed their acceptance of many stereotypes about black people. When asked what they think is the reason for the dearth of Black computer engineers they said:

Latisha: I think it's that some of them are lazy and some of them don't want to be bothered with computers. They don't really need computers. Or something like that.

Sheila: She said that White people think that they smarter than black people. But I don't think that's true. But it is true because black people don't use their brain. They don't concentrate. Some black people. They like running the streets. Some black people don't even have jobs. ... Because some black people didn't go to school to get their education. Not all, but some. And more white people go to school, and they wanna learn to get a job.

The comments speak to stereotypes about Black people. Latisha's comment, "some of them are lazy," shows that she has been taught that what is portrayed in the media about Black people being lazy is true. Sheila's comment that, "black people don't use their brain," is also an example of this perpetuation of stereotypes. She is repeating a statement that her sister told her, and she has now claimed it as her own opinion as well.

As mentioned in the section on gender, the girls expressed that it was not important for Black people to be well represented in computer engineering.

Chattara: No. ... Because if they don't want to choose that career they don't have to choose that career. They can choose any other career that they put they mind to.

Katie: No. It's not important. 'Cause there doesn't need to be a lot of black people if there's already a lot of white people doin' it.

Once again, they believe that these unequal representations are simply a result of people choosing to do other things.

The group then stated what they felt was the likely number of children in different racial and gender groups that would want to be computer engineers. Table 6 shows what the majority of the group said during this discussion.

Table 6. Gender and racial differences in interest in computer engineering careers

Group	# Who want to be computer programmers
Black girls	0
Black boys	5-7
White girls	6-8
White boys	7-8

Interpretation. What must be noted is that although the number of computer programmers in each group shown above seems roughly equal for all groups except black girls, when I first presented the question to the group regarding white girls and boys, the girls immediately blurted out that all of the white children would want to be computer programmers. This is a perfect example of self-silencing. They have been taught to believe that there are no differences between genders and among races, and try to project that belief when asked. However, listen closely and their true feelings emerge, which are that they believe there are clear differences in different groups of people. It was only after dialogue among the girls that they decided on the answers reported. Therefore, even though their responses appear to lack a racial bias, they clearly hold racial views about who works with computers. Comments about who does computers or whether or not it is important who does computers were the most interesting finding of this study because these responses reflect their views of race.

Their responses show that issues of race have not been addressed with them. They, therefore, have adopted viewpoints presented in media outlets, their community, schools, Jacob Riis, and any other institution or person they come in contact with. The ideology that the Jacob Riis staff has adopted of thinking of themselves as a neutral non-racial agency is a false one, and impossible to achieve in the society we currently live in, and only serves to perpetuate the “dream ideology.”

All spaces suffer the burdens of social contradictions. None are insulated from racism, sexism, homophobia, and classism. As such, all spaces carry the capacity and power to enable, restrict, applaud, stigmatize, erase, or complicate threads of youth identity and their ethical commitments. (Weis and Fine, 2000, p. xiii)

Therefore, it would be beneficial for Jacob Riis to explicitly address race issues with the staff and develop a process for navigating these issues with its participants, because the girls are absorbing all of the negative information being fed them on television, in school, and other places.

These views perpetuate stereotypes of black people as lazy and incompetent. This is not surprising as this has been a view Black feminists have struggled with for years, “Portraying African-American women as stereotypical mammies, matriarchs, welfare recipients, and hot mommas helps justify U.S. Black women’s oppression. Challenging these controlling images has long been a core theme in Black feminist thought” (Collins, 2000, p. 69). As with gender and class, no one has taught these girls any differently, and thus they have accepted the view given to them by the media.

As upsetting as the views given of why black people do not penetrate technical fields is the girls’ lack of understanding of why equal representation is even important. In one of the focus groups, a survey was used as a discussion starter. When asked on the survey if they felt it was important for there to be equal representation of black and white people in the field of computer programming, there was an equal split. After the girls answered the question on the survey, I discussed their responses with them. These answers demonstrate an acceptance of the “dream ideology” perpetuated in American culture, which leads people to believe that hard work can ensure success at anything. This ideology also blames failure on the individual instead of the social structure. The effects of this can be devastating to groups who do not historically succeed in this country.

Students believe that they succeed or fail in school on the basis of merit. By internalizing the blame for failure, students lose their self-esteem and

then accept their eventual placement in low-status jobs as the natural outcome of their own shortcomings. (MacCleod, 1995, p. 113)

Intersectionality of Race, Class, and Gender

One problem widely discussed in research on technology and society is access.

Although these girls participate in a computer class once a week at the Riis, this access may not be enough to inculcate a true sense of the computer as a tool. They need to have experiences with technology at home and at school also to reinforce alternative views of computers. Unfortunately, many of the girls at the center see the computer as merely a toy, and are not interested in learning more in the future. When asked if she thought it was important to be able to use a computer Victoria said:

No. It's not really that important because that's just a computer that you play with and not learn from it.

For these girls to develop long-term relationships with technology, their experiences must motivate them to want to learn more about computers. Currently this does not seem to be happening. Although on the surface, the girls enjoy using computers, they are not making a lifelong connection to computing the way many of the boys at the Riis have. Many of the girls have no interest in learning about computers in the future, and are actually afraid of what they might find inside a computer. During Victoria's interview I asked her if she wanted to learn more about computers when she gets older:

Not really. 'Cause I be seeing people doing it, and it seems like it's a hard job. Like they have to fix wires, they gotta listen. Like it's really boring. 'Cause the way people talk to them about computers, it seems like it's boring to me cause they gotta say a lot of stuff to them. And then when they try to go in the computer they don't understand what they have been saying to them.

She speaks as though computers are not even part of the world she lives in by repeatedly using "they" instead of "I." She says, "they have to fix wires, they gotta listen ... people

talk to them about computers... they gotta say a lot of stuff to them... when they try to go in the computer they don't understand what they have been saying to them."

In one of my final group discussions and in my individual interviews with the girls, we talked about what they felt would get more black girls interested in technology. Their comments suggest that they do not have the confidence in themselves to be trailblazers in the field. Instead, they expressed that if just a few girls liked computers and talked to other girls about how much fun it is then interest would build up, because at that age girls want to be part of the crowd.

Lisa: Because it gives us an opportunity to make more girls come through and it's almost like singing. It's like any kind of singer and girls like her. And they follow along by her footsteps. So maybe if somebody goes ahead and tries to do that then all the other girls will catch an interest in it and follow.

Latisha: Because if there are a little bit of black people that are engineers... Like in the newspaper there's not a lot of black engineers, but then the newspaper had engineers create different programs, and they fix computers, and they make computers, and they do different software. And maybe some black people are interested and like they now they're computer engineers, and they go tell their friend about how nice it is, and how interesting it is to be a computer engineer and they'll be more. So if it just starts out with a little it might be more than you think it would be.

Both Lisa and Latisha refer to the need for role models for other girls to emulate. Lisa compares the issue to girls that idolize singers, "and they follow along by her footsteps." Latisha explains the ability of one person to ignite the interest of other people. She feels this will develop into a snowball effect because, "if it just starts out with a little it might be more than you think it would be.

Interpretation. In the analysis of the intersection of gender, race, and class I focused on the third and fourth listenings along with previously collected data. Although it is important to understand the different elements of racism, sexism, and classism that

affect the lives of young low-income black girls, it is also important to explain how the intersection of all three of these factor combine to form a matrix of domination that is important to understand when conducting true research on Black women.

Under race-only or gender-only conceptual frameworks, it is fairly easy to see how unjust power relations create social groups. Within binary thinking, men rule women and Whites dominate Blacks in schools, the labor market, government organizations, and other social institutions. However, the emerging paradigm of intersectionality problematizes this entire process of group construction. As a heuristic device, intersectionality references the ability of social phenomena such as race, class, and gender to mutually construct one another. (Collins, 1998, p. 205)

Looking at Black women from this viewpoint is essential because otherwise one does not see the situation as a whole, but only in relationship to other pieces. Unless these intersections are explored, the unique lives of Black women cannot be understood.

According to one of the pioneers of critical pedagogy, Paulo Freire (1970), one cannot expect to effect true change in an oppressed group unless one is able to engage in meaningful dialogue with that group. If the goal of critical theorists is to allow those being oppressed to break free of their oppression, constantly working towards true dialogue becomes unavoidable. As Freire so poignantly wrote, “One cannot expect positive results from an educational or political action program which fails to respect the particular view of the world held by the people.” (p. 76). Freire did not feel that dominance should only be fought when those being dominated see the oppression. In his monumental book, *Pedagogy of the Oppressed* he wrote, “The fact that individuals in a certain area do not perceive a generative theme, or perceive it in a distorted way, may only reveal a limit-situation of oppression in which people are still submerged.” (p. 84). However, Freire states the only way an outsider can truly help those being oppressed is to

open their eyes to the oppression. This means that researchers must not only be concerned about the impact of their research on the field of knowledge but on the group under study as well. The true goal of all research should be to help people gain a critical understanding of the world around them.

When people lack a critical understanding of their reality, apprehending it in fragments, which they do not perceive as interacting constituent elements of the whole, they cannot truly know reality. To truly know it, they would have to reverse their starting point: they would need to have a total vision of the context in order subsequently to separate and isolate its constituent elements and by means of this analysis achieve a clearer perception of the whole. (p. 85)

Many feel the real impact comes in the form of role models that can show the girls that technology is open to them, and support them in the pursuit of that field. Without role models, these girls have no one to look to for guidance in the field. “The small numbers of women and minorities who are willing to teach science and engineering at elementary and secondary levels make it difficult for girls and minority students to find role models” (Huang, Taddese, and Walter, 2000, p. 14). This, I think is representative of the impact of the matrix of domination. Not only do these girls deal with a lack of female role models in technology but also a lack of role models who are black or from communities like theirs. Even within the community, there are no media messages encouraging them to think that technology is something that should interest them.

If progress is to be made in addressing the combined impact of race, gender, and class, one must listen to the voices of those living the experience every day, and develop programs that address those experiences. The words of the girls in my study clearly show that they do not understand the impact of these matters on the choices that they make. I found that although it is wonderful that they hold the opinion that they can do anything they want to do, it is upsetting that technology is not one of those things. Furthermore, it

is distressing that they do not even see the importance of this. In the next chapter, I will address what I believe can be done to address this issue.

CHAPTER 6 CONCLUSION

On June 14, 2001, I moved from Gainesville, Florida, to New York City with a mission. Use my job as coordinator of the Community Technology Center at the Jacob Riis Neighborhood Settlement House as an avenue for research, I would find a topic and write a dissertation. It is now two years later and this dissertation took a direction I never could have seen coming. Exploring the major question of how do the factors of class, race, and gender influence low-income Black girls' ideas about their future interactions with technology became my focus. Through this process of collecting data and writing, I not only learned about the Selfish Girls, the group name selected by the girls in this study, but also about myself. In essence, I am also one of the Selfish Girls. No, I did not grow up in a low-income community but my similarities to these Black girls significantly outweigh the differences.

In this chapter, I will first recap my findings of the three research questions posed at the beginning of this study. Second, I will present the thoughts and reactions of the eight girls profiled in this dissertation after hearing how they would be depicted. Third, I will discuss the perspective of three staff members of Jacob Riis and what they believe is the role of the agency in addressing class, gender, and race. Finally, I will present possibilities and needs for future research in this area, and how this dissertation can be used as a foundation for future research.

Research Questions

In the analysis chapter, I presented data that addresses each of the research questions I chose to focus on for this dissertation. In this section, I will explicitly discuss how I answered those questions within the scope of this dissertation.

1. How does the lack of presence of Black women in technology fields represent the historical oppression of Black women at work?

Although this topic was not explicitly discussed with the girls, this question was answered through looking at the historical information on Black women's experiences in work positions. As was discussed in the review of literature, a good example of the continued oppression of Black women is their lack of representation in technology fields. Technology has been and likely continues to be one of the fastest growing fields in the American economy. Because Black women are not entering technology-related fields at a rate representative of their penetration in society, their chance to prosper in these fields decreases and the likelihood that Black women will remain at the bottom of the economic ladder increases. The review of literature conducted for this dissertation indicates that this finding is significant for the lives of Black women. Yet dissertation findings show the girls in the study did not see the lack of Black women in technological fields as troubling. This finding logically leads to the next research question.

2. How do Black girls develop career aspirations and how is technology removed this list?

Every girl that participated in this study believed she could be anything she wanted to be. To the girls, it was just a matter of interest—and technology-related fields were just not captivating to them. Many of them see computers as either hard or boring,

and thus are not interested in pursuing careers related to technology. The literature on girls and technology supports this finding. It is simply not enough to give girls the same experiences with computers as those provided to boys. Instead, we must make a concerted effort to develop experiences for girls that will meet their interests. This will be discussed more in the Implications for Theory, Research, and Practice section of this chapter.

3. What understanding do pre-adolescent Black girls have of the impact of racism, sexism, and classism on the lives of Black women?

This was the strongest finding of this study. As can be seen in my analysis, the girls reiterated time and time again, their lack of understanding of issues of race, gender, and class. They are at an age where they see the difference between their experiences and the experiences of those different from them; however they do not yet make connections between these differences and any form of group oppression. Fortunately they still believe they control what happens to them. This shows the importance of why we must design programs that not only “take into account” the factors of race, gender, and class but also teach pre-adolescent Black girls to deal with and challenge these factors. For the Selfish girls, the questions will be “Who will be strong?” and “Who will give in to the pressures of those around them?”

The Girls: What They Think

One requirement of research done in the critical theory and Black feminist theory frameworks is that the data be taken back to those being studied for their verification and critique. Black women have struggled for centuries with how others represent them and how they allow these representations to define who they are. Thus, in order for me to

make any type of conclusions about the girls I worked with, they must be involved in defining themselves. Because of the young age of my participants, I was highly concerned with how I would approach this process of reviewing the data with my participants. Therefore, instead of weaving their interpretations into my analysis, I have decided to devote a separate section to the conversation that I had with them concerning how they would be represented in this dissertation. The girls and I met as a group to discuss the way in which they were portrayed in this dissertation, their reactions to this portrayal, and any messages they wanted to share with readers. This discussion took place one day after school.

The first thing we discussed was the topic of girls and computer engineers. I once again asked the girls why they thought that girls may not want to be computer engineers. The girls reiterated their view that girls can be anything they want to be and that many of them just do not want to be computer engineers. When asked why they thought that was so, they once again said it is because girls are usually interested in other things besides computers. The messages the girls stated should be presented to readers paralleled what was represented in the analysis. None of them discussed that there may be issues of sexism involved in the lack of girls in computer fields. In addition, none of them felt it was important whether or not girls were computer engineers.

The next discussion revolved around my presentation of the data and analysis, and their reactions. I first discussed in layman's terms, the goals of my research project. This was a recap for them, as I had presented the goals during our first meeting. I then briefly went through the entire analysis letting them stop me whenever they were confused or felt that what I was portraying was not accurate. Many times during my

presentation the girls made noises of agreement. When I was finished, I asked them to give me their reactions. They said that they did not understand a lot of the interpretations of the data, but felt their views had been expressed accurately. Many times they wanted to have the opportunity to correct the grammar mistakes that were in their speech, but I told them that I wanted to leave them in because it represents how they talk. Overall, they expressed that they still believe the things they believed when they were interviewed and felt I had captured it well. They also wanted to know when we were going to start the focus groups up again.

The final and what I feel was the most important part of the discussion was how they wanted themselves represented in the dissertation. Throughout my data collection period it became clear that outsiders to the Queensbridge community many times hold very strong opinions about those who live in the community. These opinions are not always based on fact but instead are usually based on assumptions and stereotypes. When I asked the girls what they would want people to know about girls from Queensbridge their reactions and answers were powerful and telling. They wanted everyone to know that not all girls in Queensbridge are the same. That yes, there are girls who are “fresh” or drop out of school, but that is not who they are. They want people to know that there are girls in Queensbridge that finish college, like the sister of one of the girls in the group. One of the girls Chattara said that she wanted everyone to know that, “Queensbridge is a fun place to be if you make the right choices.” Most importantly they wanted people to see them how they see themselves, as strong intelligent girls. I hope that in the writing of this dissertation I have done justice to who I know these girls to be.

Perspectives from Jacob Riis Staff

In order to verify and expand on the information being collected from the young girls, I decided to interview three female employees of the Jacob A. Riis Neighborhood Settlement House. Gathering information from other stakeholders is a normal activity in Black feminist work. “For Black women new knowledge claims are rarely worked out in isolation from other individuals and are usually developed through dialogues with other members of the community” (Collins, 2000, p. 260). These interviews not only allowed me to gain insight into how female staff at Jacob Riis view the young girls they work with but also to look at what Jacob Riis views as its role in changing ideas, the impact it is having already, and the influence it can have in the future. The three employees chosen come from different levels within the agency, as well as different racial, ethnic, and socioeconomic backgrounds. The comments of these employees allowed me to gain a deeper understanding of the girls’ views, as well as the agency as a whole.

The first thing they discussed was the challenges of growing up in the Queensbridge community. The staff at Jacob Riis is quite aware of the environment the girls are exposed to, mostly because many of them live in the community.

Rolanda: Just the challenge of being a child in a neighborhood with a lot of bad influences. And basically it’s the drug dealers. Cause the drug dealers bring all the bad stuff. Whether it be someone who’s using drugs. ... Every time there’s a shoot out here, 99% of the time it’s drug related. Somebody came into somebody else’s territory, or ripped somebody else’s mother off to get money to buy drugs. Majority of the incidents are drug related. Kids have to deal with it every day.

Danae: I see that in Queensbridge kind of tends to be... Like it’s really huge, but I think that people are close knit also, and you definitely know this person isn’t from here, or this person isn’t from here. So I think that kids are also exposed to a strong sense of community. It’s kind of like strange cause if you ask some

kids what city do they live in, they'll say Queensbridge. Some of them will say Queensbridge, because they identify Queensbridge as this place that people want to be from.

The staff is aware that the girls are part of a community that on one hand can be supportive and protective and on the other dangerous and self-defeating. All of this leads many people to give up and lose hope. Some of the adults living in the Queensbridge Houses are seen as lacking any hope for themselves or their children as the result of a system that does not support their advancement. This lack of hope is then passed on through interactions with their children who develop a mentality of hopelessness. However, what is important to understand is that although the values are passed from parent to child, the development of these values are not a result of a lack of morals or ethics, but instead come from continued participation in a system that does not want the poor or minorities to succeed. The development of a lack of hope is to be expected when living in a community that is not expected to produce any successes. Once the adults lose hope, it is only a matter of time before these feelings are passed on to the children around them. "The collapse of meaning in life—the eclipse of hope and absence of love of self and others, the breakdown of family and neighborhood bonds—leads to the social deracination and cultural denudement of urban dwellers, especially children" (West, 1993, p. 9).

Rolanda: See some people just go with the flow. They don't do anything extra. Some of these kids may see that their parents just go with the flow; they don't push them to do anymore. And I work with children in my regular job whose parents just go with the flow. They don't push their children to do extra. They figure, "Oh, society says they're not supposed to do but so much, so let them do what society says." They don't motivate them. They don't have confidence in their own children, and if the children see that the parents have no confidence, they don't care.

The assumptions made about Queensbridge by outsiders are felt by the children on a daily basis in their encounters with teachers at their schools. District 30, the school district serving the Queensbridge Houses is characterized by many failing schools, and children from Queensbridge have been shown to do worse in school than other children from the district. The reasons for this difference in performance are seen by many in the community as a result of bias on the part of the teachers and administrators, not the fault of the residents.

Danae: And then on another negative note, they're exposed to all of the schools that operate at a less than... At a lesser standard than other schools outside of the district. So I think they're exposed to that. And I would venture to say that there's some bias on behalf of the schools and the kids that go there. I mean I think they pinpoint... Cause you know that Queensbridge kids get bussed into school? So they know who's from Queensbridge and who isn't, and I don't think it's any mistake that a lot of the kids in Queensbridge are in the lower functioning classes, and whether that's because of... Of course some of the kids may have some issues, I don't think they're as understanding as they could be, and I think they allow certain things... The schools just in general, it kind of like, "Just stick 'em in there. We're not going to worry about it. Just get it through." That's just the sense that I get. It may not be the true sense, but that's the sense that I get.

This lack of support from their teachers and frequently from those within their own community results in youth participants at Jacob Riis having low self-efficacy. They have not experienced success in many life and school activities; hence, they have developed a self-defeating attitude toward anything that appears to be challenging. This was seen by one staff member when trying to introduce the participants to Lego Robotics, a program developed to teach young children how to build and program robots with Legos.

Emma: I do see with the Lego Robotics, I do see people... Some of the youth, kind of giving up in a sense. When they're faced with new problems. It's kind of that lack of exposure to new things. I feel like... I have no idea what their education system is, but just based on how they're reacting to Legos, I feel like they just have kind of a grind in school where they must do it in one way because given Legos they're just like, "I don't know how to do Legos." And it's like, how can you not know? There's nothing to do you just put them together. It's like they just sit there and are like, "I can't do it." So to see that reaction leaves up to me that they're not getting exposed to problem solving, to like unique ways of doing things in school.

One staff member at Riis reflected on her past experiences in trying to get girls interested in pursuing degrees in math and science, showing that even with a concerted effort, the results are not always desired ones. This lack of representation of women, especially Black women, in math, science, and technology represents larger views of gender in society was underscored in comments from staff.

Danae: And I know it is this, cause people don't see girls or women as having the ability to think logically. That women think emotionally they don't have the mind or the framework to do the technology piece. So I would imagine that if a lot of people thought like that and gravitated toward other careers that women are generally pushed into, like those nurturing type of careers, nursing, and teachers and stuff like. If as a society we do that, then it wouldn't be shocking to me.

After discovering this, I felt it was important to discuss with the staff members, how they feel sexism is addressed at Jacob Riis. Many times community organizations serving a largely Black population focus on race at the expense of issues of gender (Collins, 2000). The answers I got from the staff reflect that although Jacob Riis may understand the need for programming that addresses gender issues, and on a certain level has created that programming through partnerships with organizations like Girls, Inc., they are not tackling it in a way that really deals with the problems. During my two years

working at Jacob Riis, I experienced sexist comments from all levels of staff, especially when I was working as the Community Technology Center Coordinator. Comments about my ability to work with computers were always couched in jokes about hurting myself or getting my nails dirty. I felt this lack of gender equality on the staff level was representative of the organization not being ready to deal with gender issues on the participant level.

Tamara: So in what ways do you talk to the girls about issues of sexism and racism and classism?

Rolanda: Well I don't think that I really talk to them about sexism. I joke with them and say we're smarter than boys, but just don't tell them. That's as far as I go as far as that is concerned.

This is not to say that Jacob Riis is not trying to address gender issues, but that they have not yet found a way to do it that is reflective of the needs of today's young girls. Another possibility is Jacob Riis does not view gender issues as being of critical concern at this time. However, they are moving in a positive direction by realizing that girls need more than just to be in groups with other girls to truly address gender issues in an open and non-threatening way.

Danae: We just can't say, all girls are in one group, so that's girls' programming. We really gotta figure out what do we wanna do with them that's going to make it a true girls' programming for them. Taking into account all the things that we know in terms of the amount of violence against girls, the fact that they're not involved in technology and sciences as other, maybe the counterparts, males, are. Just us being aware of that and moving in the direction that we're going to do something about it, or seeking resources to do something about that. I think that that's a good way to go.

Uncertainty in how to address gender spills over into discussions of race as well. Although they understand the effect race has on the lives of these young girls, those in leadership roles are not quite sure how they should deal with it because of the complexity

of the issue, and the internal race issues that arise when discussions of race occur. This leaves them without a formal way of discussing how race affects the girls' lives. For many people, the assumption is made that if issues of race are not discussed or brought up with children then they do not see race.

Rolanda: Many of my girls, all they care about is dancing. They don't see black and white, and that's cause their parents aren't teaching them to see black and white, which is good. I just remind them that everybody's different, they have to respect everybody's differences, and if they don't like it, and want to talk about it as a group, they can bring it to me, and discuss it as group. And that's as far as racism is concerned.

During my time at Jacob Riis, this sentiment was expressed several times at all levels within the organization. Even during a diversity training where staff members were encouraged to express openly their views on race, many staff members voiced a "one race" sentiment. Although this opinion is seen by many as a view that includes all and focuses on the similarities of people instead of the differences, it also discounts the experiences of Black people in America, and assumes that these experiences do not affect them (Venkatesh, 2000). Even still, in my observations and discussions with these same staff members, obvious racial biases emerged. These biases are undoubtedly transferred to the children in their experiences at Jacob Riis as well as elsewhere in their lives.

Another incident that brought out the low understanding of racial issues at Jacob Riis happened around a discussion with the children. A lesson was developed to help participants become aware of their connection to the world around them. Staff wanted to find out where each child's ancestors were from so students could research that place. Unfortunately when the lesson was presented to the children, a racial twist was added. One staff member relayed what happened in a discussion with me.

Emma: One of the group leaders talking about where are you from. Had all the kids say whether they were black or not. Going around the room, and I was like I don't know if it's that simple. And they were just like, "Are you black?" And she was like, "I don't know." And they said, "Well you better go home and ask whether you're black or not." So at least the project discussed where kids are from. We talked about where are you from, where were you born, where are your parents from. Which I think is the way that their project was set up was very open to diverse cultures, but I felt like when it was in practice that part was a little bit ignored.

The staff at Jacob Riis seems to understand the compounding effect of all of these elements, but is not quite sure how to address it, and what effect the agency has on the children.

So why does it matter if there are black women in technical fields? Although there is plenty in the literature that speaks to the importance of representation of women and minorities it is important for individuals working with children or developing curriculum to understand the importance, maybe even more important than the girls themselves understanding. Fortunately, Jacob Riis is a place with a staff that understands this need. Their understanding of the importance comes from two different philosophies: one from the impact it has on people who may not enter a field because of lack of representation, and the other from the perspective of the impact to the field itself.

Tamara: Like does it matter if there are black women in technical fields?

Danae: I think it matters period. People.... And this is going to be a strange answer for you, but I think that in every field period, no matter what it is, there should be a little representation from all groups. Because then you have situations where... This isn't going to sound too nice, but let's look at the New York City Fire Department. Where it's traditionally an old boys type of network. White men. They are not trying to hear... When they had to merge with EMS, and EMS had a lot more people of color working for them. I think that was an issue, women and people of color, and merging, cause the fire department is a bunch of white men. When I went there for the thing, I see all of these like 6-foot tall white men. I was like the only female in there.

So I think that when you don't have a certain level of participation or representation of groups in the different fields, you can get to a place where it's kind of closed out at a point because these are the individuals that have been involved in this career in this track for most of their lives, and that goes for mother, brother, cousin, whatever, and it kind of traps everybody else off, and it's kind of hard to break through.

Tamara: So do you think it's important for there to be more representation of African Americans and women in computer fields.

Emma: I think so, I mean the more diverse of a group, the better you solve the problem. And at least for gender issues... these are all like my own... And I'm realizing as I'm saying this that it's also very prejudice to say that women can solve problems better or in a different way than men.

I mean that's assuming that people do solve things in different ways. But I feel like at least the society as it is now, I feel like, well any sort of diversity can create a better solution in general. Because you have more minds from a different mindset thinking of the same problem to solve it better.

But I also believe a more pro-female science would be a more pro-earth science. And that's just based on my own philosophy.

All that has been discussed leaves many people at a loss of how to make a difference. It appears that there are so many messages telling the girls they should not be computer engineers. However, places like Jacob Riis have a large influence on these girls and the power to change their perceptions. With focused curriculum that allows them to use technology in a way that is exciting for them, they can begin to look at technology differently. The girls in this study have an awesome amount of confidence in themselves. What the girls need is a vehicle and guidance to channel that confidence into the technology field, which may not reward or appreciate their presence.

Emma: So for me this job is perfect for me. Cause I think youth is where we need to start. Whether or not people are interested in math and science, and whether or not they're comfortable with computers because I've met a lot of... I mean there's two... I was going to say there's two issues, but not really I guess. Yeah,

there's actually two issues. One is I feel like we need to expose the youth as early as possible to technology in a gender-based way, in a non-racially biased way. Without prejudice. Try and get kids exposed as much as we can so that they consider math and science positions because it's found in science that a diverse group of people can come up with better solutions, than a non-diverse team. As well as it's a well paying position for people in a community that's low income, they should be funneled to the high-paid positions, I believe.

Implications for Theory, Research, and Practice

Theory and Research

For this study I have focused on the intersection of race, gender, and class in the lives of black girls, and especially around issues of technology. During the process of conducting this study, I came to understand just how little research there is out there addressing this intersection. Although Black feminist theory has developed a strong theoretical foundation, it has not addressed how technology has impacted the lives of Black women. This, I feel, is an important area of research that must be explored further.

In 1972, Gerda Lerner compiled historical documents chronicling Black women's experiences in America. Seeing all of this information together in one place helps the reader see the big picture. This same type of analysis should be done around the experiences of Black women and technology. Historically, those who are in the lower economic levels of society do not see the benefits of advancements in technology. In fact, they are usually displaced because of the automation that technology brings. It would greatly help this field if research was done looking at the historical experiences of Black women with technology. This research could help to inform practitioners on how to develop programs that will get more Black women into technical fields.

A second area of research sorely needing addressing is the identity development of Black girls. Much of the research used in this dissertation discussed this need to explore self-efficacy and identity development. It is widely accepted that the impacts of race, gender, and class influence the identity development of girls in a variety of ways. Although there are areas that can be generalized, I caution that we should be careful in our generalizations until more research has been done to isolate the differences. For example, as discussed in this dissertation, Black girls seem to mature at a much faster rate than other girls because of the expectations of people around them. Hence, this finding should be pursued more and added to the body of psychological literature on Black girls.

Practice

These additions to theory and research will hopefully be transferable to changes in practice. Currently, programs regarding girls and technology are emerging all over the country, ranging in nationwide programs like the Girl Scouts of America to local programs like those at Jacob Riis. Although the goals of these programs are noteworthy, they are lacking in one important area. They do not take into account the specific needs of the girls in the program. What I mean by this is that many of these programs are standardized curriculums being used nationwide. Unfortunately, girls across the country are not all the same. They have different experiences and thus, very different needs. It is important that programs are developed using research specific to the needs of the group for which the program is being developed.

Although the goal of the technology program is to expose and interest girls in non-traditional fields, it would be beneficial to use their current interests in order to help them develop new ones. In addition, their experiences are not the same as a girl growing

up in the suburbs, thus any curriculum developed should address that as well. This is all to say that we must be careful when developing curriculum for girls. One thing I have learned from this dissertation is that the way we are looking at technology and how it can be taught has been very limited. We must involve our participants in the selection of projects, software, hardware, and any other tools. They know best what they want to do. Our job is to use that in a way that is not only educational but also results in a pleasant and rewarding experience.

In addition we must provide role models for young girls. One of the biggest influences on a person's self-efficacy is adult influence. Most the girls in the study had never met a computer engineer and did not even know what a computer engineer did. It was the girls' opinion that one way more girls would become interested in technological fields was if they could see people, specifically Black women, in these occupations and learn from what they have done. Currently, Jacob Riis is in the process of trying to bring in more women to talk to the participants about careers in technology. These girls are still at an age where they will change their minds about the future. If the words coming out of their mouths are telling us that they need role models, we would do well to listen.

A Final Note

Throughout this dissertation I have done my best to portray the Selfish Girls in a way that truly captures the beauty each of them hold. I have grown close to all of them, and feel we share something among ourselves that no one can ever take away. My hope is that those reading this dissertation will see their beauty as well. They are a group of girls growing up in a time in America where people are doing their best to not notice them. The economic crisis we currently face effects children from neighborhoods like

Queensbridge the most. I hope that by reading this dissertation people will remember that as we continuously try to group people living in housing projects into a mold of laziness, stupidity, and immorality, what we are really speaking of is ourselves. The girls I met from Queensbridge are actually the exact opposite. They are hard working, brilliant, and generous. As previously mentioned, I went to Queensbridge to teach participants of the Jacob Riis Neighborhood Settlement House but it is I who has learned the most. I thank them for all they have taught me and hope one day I can find a way to truly repay them.

APPENDIX A
RESEARCH PROCESS

Time Period	Stages of research process	Major decision or act
February 2001	Attended the MOUSE CTC Conference in New York City and interviewed for the CTC Coordinator position at Jacob Riis	Decided to focus on community technology centers for dissertation
June 2001	Moved to New York City	Began working as the Community Technology Coordinator at Jacob Riis Neighborhood Settlement House
August 2001	Developed research topic around Black women and career aspirations in technology	
October 2001	Read Patricia Hill Collins <i>Black Feminist Thought</i>	Decided to no longer focus on Black women, but instead to look at Black girls. Chose Black Feminist Thought as a major theoretical framework
November 2001	Read Carspecken's <i>Critical Ethnography in Educational Research</i>	Used his guidelines to develop a list of questions that I was interested in pursuing
December 2001	Developed interview protocols for first round of interviews and focus groups	
January 2002	Received IRB approval for research with the 9/10 year old girls	
January 2002	Met with parents of girls to obtain permission	
February 2002	Read hooks, Davis, Cleage, Collins, and Ladner	Developed stronger foundation in Black Feminist Theory
February 2002 – March 2003	Observed girls in different situations within the center	Kept detailed fieldnotes of observations
March 2002 – June 2002	Conducted first round of interviews with 9/10 year old girls selected to participate	Transcribed initial interviews
April 2002 – June 2002	Conducted weekly focus groups with the girls	Summarized notes from groups for future use

Appendix A (cont.)

Time Period	Stages of research process	Major decision or act
June 2002	Decided to narrow focus to matrix of domination	
July 2002	Developed interview protocol for follow-up interview with girls	
November 2002	Decided to analyze data using Brown and Gilligan's Listener's Guide	
January 2003	Interviewed staff at Jacob Riis	Transcribed interviews
February 2003	Conducted second round of interviews with the eight remaining girls	Transcribed interviews
March 2003	Submitted initial dissertation to committee chair and methodology member	Stopped collecting data
April 2003	Revised methodology chapter to include more details of research process	
May 2003	Revised analysis chapter to fall in line with Brown and Gilligan's Listener's Guide	Resubmitted dissertation
May 2003	Conducted member checking group with girls to gain their feedback	Added section to conclusion with their responses to analysis
June 2003	Defended dissertation to committee	

APPENDIX B
FIRST INDIVIDUAL INTERVIEW PROTOCOL

1. Tell me about yourself
 - a. How old are you? What grade are you in?
 - b. What is your family like? Do you have any siblings? What do your parents do for a living?
2. Tell me about Queensbridge
 - a. What do you like about living in Queensbridge?
 - b. What don't you like about living in Queensbridge?
 - c. What are people like in Queensbridge?
3. What do you want to be when you grow up? Why?
 - a. How did you pick that career?
 - b. What kinds of people have that career? Women? Minorities?
 - c. Do you know anyone who has that career?
 - d. What does it take to be a ...? Do you think you can do it? Why/why not?
4. What do you think about computers?
 - a. Are you good at computers?
 - b. Do you like to use a computer? Why/why not?
 - c. Do you have a computer at home?
 - i. If yes...What kind of things do you do on the computer?
 - ii. If no...Would you like to have a computer? What types of things would you do on the computer?
5. Do you think girls are good at computers? Why/why not?
 - a. Do you know any girls who are good at computers?
 - b. What do you think of this girl?
6. Do you think that minorities are good at computers? Why/why not?
 - a. Do you know any minorities who are good at computers?
 - b. What do you think about them?
7. What kinds of people have computer jobs?
 - a. Do you know anyone who has a computer job?
 - b. Tell me about that person.

APPENDIX C

SECOND INDIVIDUAL INTERVIEW PROTOCOL

1. Describe to me the first time you remember using a computer.
 - a. How old were you?
 - b. What were you doing?
 - c. Where were you?
 - d. How did you feel?
 - e. Did you enjoy your experience?
 - f. Do you think that you will want to learn more about how computers work as you get older?

2. Describe your computer class at school?
 - a. What kinds of things do you do?
 - b. How does your computer teacher interact with you?
 1. Walk me through a computer class at school.
 - c. Does your teacher encourage you to explore on your own on the computer?
 - d. Does your teacher encourage you to pursue computers?
 - e. How do you feel when you are using the computer in class at the center?

3. Describe your computer class at the center?
 - a. What kinds of things do you do?
 - b. How does your computer teacher interact with you?
 1. Walk me through a computer class at the center.
 - c. Does your group leader encourage you to explore on your own on the computer?
 - d. How do you feel when you are using the computer in class at the center?

4. What makes a job a good job?
 - a. Money, power, fame?
 - b. Is it important to have a good job or to just have a job?
 - c. How important is school in getting a good job.
 - d. Do you believe that all jobs require the use of computers? What does that mean for you?
 - e. Is a computer engineer a good job?
 1. What other types of computer jobs are there besides computer engineer?
 2. Do you want to do any of those jobs when you get older?
 3. Are all computer jobs good jobs?

APPENDIX D

FOCUS GROUP PROTOCOL

Each topic will be discussed for 2 sessions.

1. Who am I?
 - a. Deciding upon group rules with the girls.
 - b. Group name and creating a sign for the group
 - c. Ask each girl to write words that describe who she is as a person
 - d. Discuss the commonalities and the differences
2. What makes a girl a girl?
 - a. What is it like to be a girl?
 - b. What is it like to be a girl in Queensbridge?
 - c. What are some of the stereotypes about girls? Are any of the stereotypes true?
 - d. What type of woman do you want to be? Why?
 - e. What type of woman do you NOT want to be? Why?
3. When I think of computers...
 - a. Do you like computers?
 - b. Are boys or girls better at computers? Why?
 - c. Are minorities (Black, Hispanic, Asian, etc.) good with computers? Why/why not?
 - d. Why do you need computer skills? What can you do with computer skills?
4. What are computer jobs?
 - a. What are some examples of computer jobs?
 - b. What kinds of people have these jobs?
 - c. Can girls do these jobs? Why/why not?
 - d. Why don't more women have computer jobs?
 - e. Can minorities do these jobs? Why/why not?
 - f. Why don't more minorities have these jobs?
5. A computer club for girls.
 - a. Would you like to have a computer club for girls?
 - b. What types of things would you do in that club?
 - c. What types of things would you not want to do in the club?
 - d. Who will be allowed in the club?

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BIOGRAPHICAL SKETCH

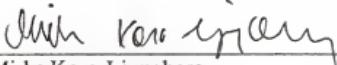
Tamara Pearson holds a Bachelor of Science degree in mathematics from Spelman College as well as a Master of Education degree in curriculum and instruction from the University of Florida. She has taught undergraduate teacher education courses in the College of Education at the University of Florida, undergraduate computer application courses in the College of Engineering at the University of Florida, as well as developed and implemented curriculum for youth ages five through eighteen. In 2001, Ms. Pearson moved from Gainesville, FL to New York City to begin a position as the Community Technology Center Coordinator at the Jacob A. Riis Neighborhood Settlement House. After less than one year, Ms. Pearson was promoted from that position to the role of Education Director, where she was responsible for designing a new education program. Beginning in Fall 2003, Ms. Pearson will start a new position as the Technology Specialist for the Calhoun School, an independent school in New York City as well as begin research and production on a documentary film. Ms. Pearson has had articles published in Multimedia in Schools, Tech Trends, and Learning and Leading with Technology.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation of Doctor of Philosophy.



Colleen R. Swain, Chair
Assistant Professor of Teaching and
Learning

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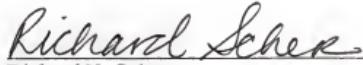
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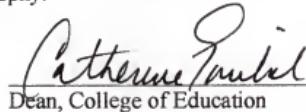
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